

=> fil hcap  
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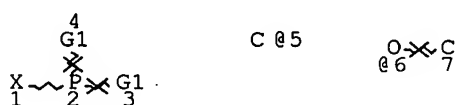
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FILE COVERS 1907 - 24 Oct 2007 VOL 147 ISS 18  
 FILE LAST UPDATED: 23 Oct 2007 (20071023/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 147

L8 STR  


VAR G1=X/5/6

NODE ATTRIBUTES:

NSPEC IS RC AT 5  
 NSPEC IS RC AT 7  
 CONNECT IS E3 RC AT 2  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L10 5379 SEA FILE=REGISTRY SSS FUL L8  
 L11 12801 SEA FILE=CAPLUS ABB=ON PLU=ON L10(L) RACT+NT/RL  
 L14 27270 SEA FILE=HCAPLUS ABB=ON PLU=ON ION EXCHANGE+PFT,NT/CT  
 L15 54122 SEA FILE=HCAPLUS ABB=ON PLU=ON ION EXCHANGERS+PFT,NT/CT  
 L20 TRANSFER PLU=ON L11 1-1900 RN : 49930 TERMS  
 L21 49930 SEA FILE=REGISTRY ABB=ON PLU=ON L20  
 L22 TRANSFER PLU=ON L11 1901- RN : 50321 TERMS (TERM LIM  
 T EX  
 CEDED)  
 L23 50321 SEA FILE=REGISTRY ABB=ON PLU=ON L22  
 L24 TRANSFER PLU=ON L11 3950- RN : 50679 TERMS (TERM LIM  
 T EX

CEEDED)

L25           50679 SEA FILE=REGISTRY ABB=ON PLU=ON L24  
 L27           TRANSFER PLU=ON L11 6950- RN :   50614 TERMS (TERM LIM  
 T EX

CEEDED)

L28           50614 SEA FILE=REGISTRY ABB=ON PLU=ON L27  
 L29           TRANSFER PLU=ON L11 10500- RN :   24330 TERMS  
 L30           24330 SEA FILE=REGISTRY ABB=ON PLU=ON L29  
 L31           194279 SEA FILE=REGISTRY ABB=ON PLU=ON L30 OR L28 OR L25 OR L23 OR  
               L21  
 L32           STR



P @3   G1 4

VAR G1=3/1

NODE ATTRIBUTES:

NSPEC   IS RC       AT   1  
 NSPEC   IS RC       AT   3  
 CONNECT IS E3   RC AT   3  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS   4

STEREO ATTRIBUTES: NONE

L34           78559 SEA FILE=REGISTRY SUB=L31 SSS FUL L32  
 L35           STR



NODE ATTRIBUTES:

NSPEC   IS RC       AT   1  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS   2

STEREO ATTRIBUTES: NONE

L36           41148 SEA FILE=REGISTRY SUB=L34 SSS FUL L35  
 L37           STR

P 1

NODE ATTRIBUTES:

NSPEC   IS RC       AT   1  
 CONNECT IS E3   RC AT   1  
 DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE

L38 40486 SEA FILE=REGISTRY SUB=L34 SSS FUL L37  
 L39 22389 SEA FILE=CAPLUS ABB=ON PLU=ON L38(L)PREP+NT/RL  
 L40 700889 SEA FILE=CAPLUS ABB=ON PLU=ON L36(L)RACT+NT/RL  
 L41 6611 SEA FILE=CAPLUS ABB=ON PLU=ON L39 AND L40  
 L42 4016 SEA FILE=CAPLUS ABB=ON PLU=ON L41 AND L11  
 L44 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 AND (L14 OR L15)  
 L45 115 SEA FILE=HCAPLUS ABB=ON PLU=ON L42 AND ?EXCHANG?  
 L46 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L45 AND (ION OR CATION? OR ANION?)  
 L47 33 SEA FILE=HCAPLUS ABB=ON PLU=ON L46 OR L44

=> d l47 ibib abs hitind hitstr tot

L47 ANSWER 1 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:845603 HCAPLUS Full-text

DOCUMENT NUMBER: 147:212035

TITLE: Process for the production of phosphorous compounds

INVENTOR(S): Sandee, Albertus Jacobus; Van der Burg, Alida Maria; Reek, Joost Nicolaas Hendrik

PATENT ASSIGNEE(S): Engelhard de Meern B.V., Neth.; Universiteit van Amsterdam

SOURCE: PCT Int. Appl., 14pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

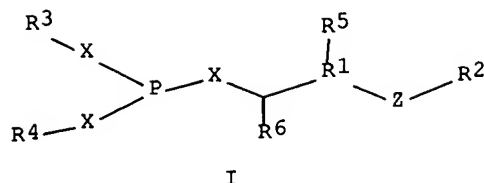
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007086745	A1	20070802	WO 2007-NL50033	20070126
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 1816132	A1	20070808	EP 2006-75167	20060126
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU			

PRIORITY APPLN. INFO.: EP 2006-75167 A 20060126

OTHER SOURCE(S): CASREACT 147:212035; MARPAT 147:212035

GI



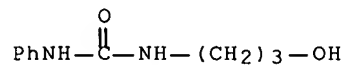
- AB The invention is directed to a process for the production of certain phosphorous, namely urea, thio-urea and sulfonamide phosphorous compds. I (X = O, N, C; R1 = C0-5 alkylene; R2 = H, (un)substituted alkyl, aryl; R3-R6 = H, substituted alkyl, aryl group; Z = NHCONH, NHCSNH, NHSO2, etc.). The present invention provides a process for the production of phosphorous compds. which process allows an easy and effective separation of the reaction products from impurities by applying a solid alkaline ion -exchange resin.
- CC 29-7 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 45
- ST urea thiourea sulfonamide phosphorous compd prepn ion exchange resin; purifn urea thiourea sulfonamide phosphorous compd ion exchange resin
- IT Ion exchangers  
Purification  
(preparation and purification of phosphorous urea, thiourea, and sulfonamide phosphorous compds. with ion-exchange resin)
- IT Phosphites  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and purification of phosphorous urea, thiourea, and sulfonamide phosphorous compds. with ion-exchange resin)
- IT 4974-07-6, 1-(3-Hydroxypropyl)-3-phenylurea 87919-33-3  
155613-52-8 359850-52-5 944834-57-5  
944834-58-6 944834-59-7 944834-60-0  
944834-61-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and purification of phosphorous urea, thiourea, and sulfonamide phosphorous compds. with ion-exchange resin)
- IT 9049-93-8, Amberlyst A 21  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(preparation and purification of phosphorous urea, thiourea, and sulfonamide phosphorous compds. with ion-exchange resin)
- IT 944937-75-1P 944937-76-2P 944937-77-3P  
944937-80-8P 944937-81-9P 944937-82-0P  
944937-83-1P 944937-84-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and purification of phosphorous urea, thiourea, and sulfonamide phosphorous compds. with ion-exchange resin)
- IT 4974-07-6, 1-(3-Hydroxypropyl)-3-phenylurea 87919-33-3  
155613-52-8 359850-52-5 944834-57-5  
944834-58-6 944834-59-7 944834-60-0  
944834-61-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and purification of phosphorous urea, thiourea, and

sulfonamide

phosphorous compds. with ion-exchange resin)

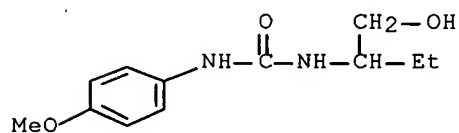
RN 4974-07-6 HCAPLUS

CN Urea, N-(3-hydroxypropyl)-N'-phenyl- (CA INDEX NAME)



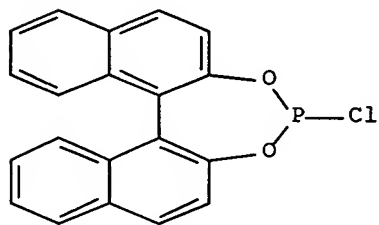
RN 87919-33-3 HCAPLUS

CN Urea, N-[1-(hydroxymethyl)propyl]-N'-(4-methoxyphenyl)- (CA INDEX NAME)



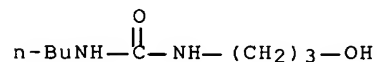
RN 155613-52-8 HCAPLUS

CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphopin, 4-chloro-, (11bR)- (CA INDEX NAME)



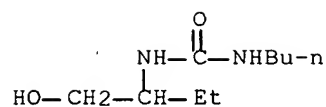
RN 359850-52-5 HCAPLUS

CN Urea, N-butyl-N'-(3-hydroxypropyl)- (CA INDEX NAME)



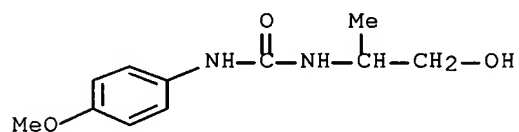
RN 944834-57-5 HCAPLUS

CN Urea, N-butyl-N'-[1-(hydroxymethyl)propyl]- (CA INDEX NAME)



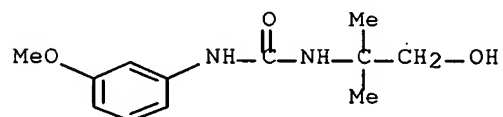
RN 944834-58-6 HCAPLUS

CN Urea, N-(2-hydroxy-1-methylethyl)-N'-(4-methoxyphenyl)- (CA INDEX NAME)



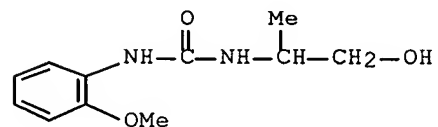
RN 944834-59-7 HCAPLUS

CN Urea, N-(2-hydroxy-1,1-dimethylethyl)-N'-(3-methoxyphenyl)- (CA INDEX NAME)



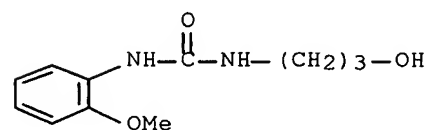
RN 944834-60-0 HCAPLUS

CN Urea, N-(2-hydroxy-1-methylethyl)-N'-(2-methoxyphenyl)- (CA INDEX NAME)



RN 944834-61-1 HCAPLUS

CN Urea, N-(3-hydroxypropyl)-N'-(2-methoxyphenyl)- (CA INDEX NAME)



IT 944937-75-1P 944937-76-2P 944937-77-3P

944937-80-8P 944937-81-9P 944937-82-0P

944937-83-1P 944937-84-2P

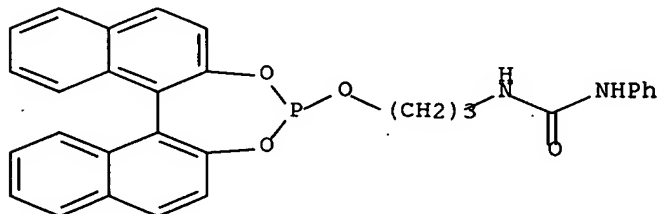
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and purification of phosphorous urea, thiourea, and sulfonamide

phosphorous compds. with ion-exchange resin)

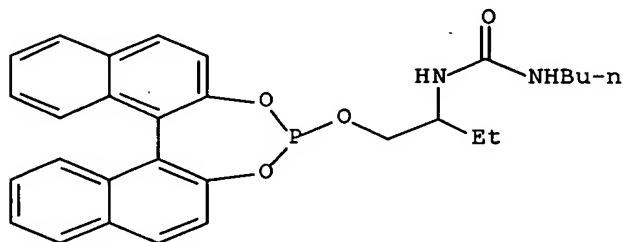
RN 944937-75-1 HCAPLUS

CN Urea, N-[3-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphopin-4-yloxy]propyl]-N'-phenyl- (CA INDEX NAME)



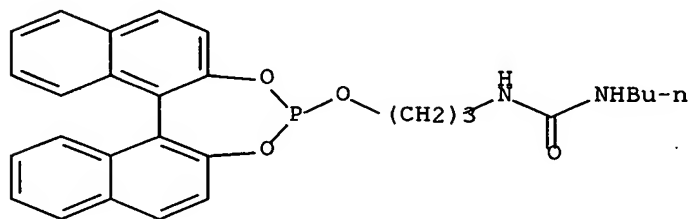
RN 944937-76-2 HCAPLUS

CN Urea, N-butyl-N'-[1-[[ (11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphopin-4-yloxy)methyl]propyl]- (CA INDEX NAME)



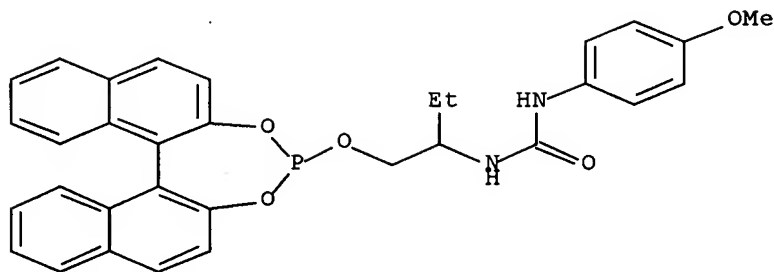
RN 944937-77-3 HCAPLUS

CN Urea, N-butyl-N'-[3-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphopin-4-yloxy]propyl]- (CA INDEX NAME)



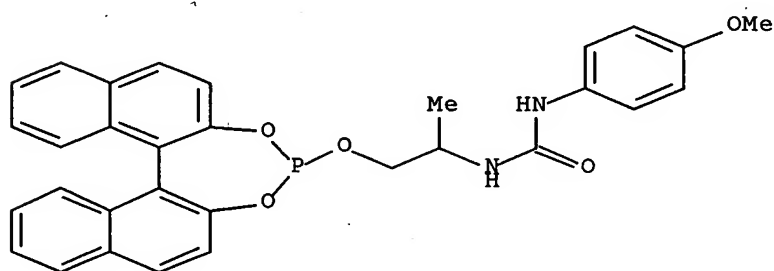
RN 944937-80-8 HCAPLUS

CN Urea, N-[1-[[ (11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphopin-4-yloxy)methyl]propyl]-N'-(4-methoxyphenyl)- (CA INDEX NAME)



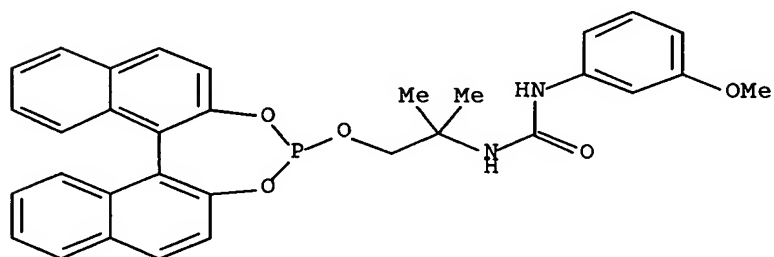
RN 944937-81-9 HCAPLUS

CN Urea, N-[2-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphhepin-4-yloxy]-1-methylethyl]-N'-(4-methoxyphenyl)- (CA INDEX NAME)



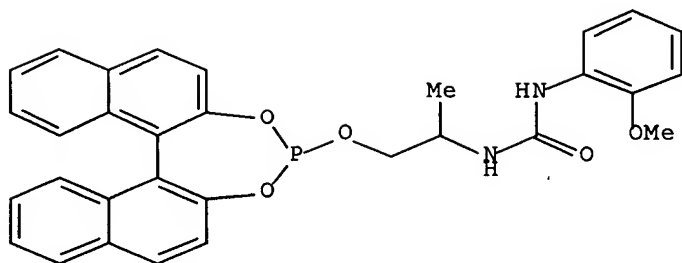
RN 944937-82-0 HCAPLUS

CN Urea, N-[2-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphhepin-4-yloxy]-1,1-dimethylethyl]-N'-(4-methoxyphenyl)- (CA INDEX NAME)



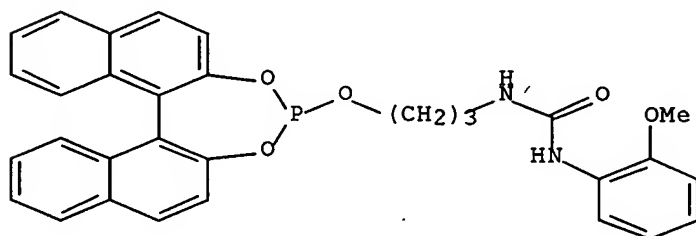
RN 944937-83-1 HCAPLUS

CN Urea, N-[2-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphhepin-4-yloxy]-1-methylethyl]-N'-(2-methoxyphenyl)- (CA INDEX NAME)



RN 944937-84-2 HCAPLUS

CN Urea, N-[3-[(11bR)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin-4-yloxy]propyl]-N'-(2-methoxyphenyl)- (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:436238 HCAPLUS Full-text

DOCUMENT NUMBER: 146:501179

TITLE: Method for preparing pentaerythritol phosphite as antioxidant

INVENTOR(S): He, Hailong; He, Liming; Wang, Wei; Ma, Jingsheng; Hao, Yuchun

PATENT ASSIGNEE(S): China Petroleum & Chemical Corporation, Peop. Rep. China; Sinopec Beijing Research Institute of Chemical Industry

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp. CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1948319	A	20070418	CN 2005-10112503	20051010
PRIORITY APPLN. INFO.:			CN 2005-10112503	20051010

AB The title method comprises: (1) adding solvent, pentaerythritol, and weak-alkaline solid catalyst into a reactor, adding phosphorus trichloride under stirring under anhydrous inert gas atmospheric, slowly heating to 50-100°C, and carrying out reaction for 2-10 h to obtain pentaerythritol dichlorodiphosphite reaction solution, wherein the catalyst/pentaerythritol

weight ratio is (1-20):100, the phosphorus trichloride/pentaerythritol molar ratio is (2-5):1, and the solvent/pentaerythritol ratio is (5-20):1 (ml/g), (2) adding 2,6-di-tert-butyl-p-cresol into the reaction solution, heating to 80-120°C under stirring, and carrying out reaction for 8-24 h, wherein the 2,6-di-tert-butyl-p-cresol/pentaerythritol dichlorodiphosphite molar ratio is (2-4):1, and (3) filtering, cooling, crystallizing, washing, and drying to obtain the final product. The catalyst used in the invention is solid and can be easily separated and recycled. This method has the advantages of low cost, low environment pollution, and high purity of product, and good properties of product.

CC 29-7 (Organometallic and Organometalloidal Compounds)

ST pentaerythritol phosphite antioxidant manuf ion  
exchanger catalyst

IT Antioxidants

Ion exchangers

(production of pentaerythritol phosphite as antioxidant using solid acid catalyst)

IT 80693-00-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(production of pentaerythritol phosphite as antioxidant using solid acid catalyst)

IT 115-77-5, Pentaerythritol, reactions 128-37-0,  
2,6-Di-tert-butyl-p-cresol, reactions 7719-12-2, Phosphorous  
trichloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(production of pentaerythritol phosphite as antioxidant using solid acid catalyst)

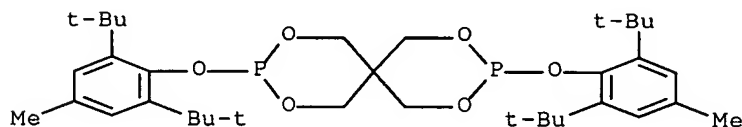
IT 80693-00-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(production of pentaerythritol phosphite as antioxidant using solid acid catalyst)

RN 80693-00-1 HCAPLUS

CN 2,4,8,10-Tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,6-bis(1,1-dimethylethyl)-4-methylphenoxy]- (CA INDEX NAME)



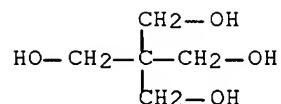
IT 115-77-5, Pentaerythritol, reactions 128-37-0,  
2,6-Di-tert-butyl-p-cresol, reactions 7719-12-2, Phosphorous  
trichloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(production of pentaerythritol phosphite as antioxidant using solid acid catalyst)

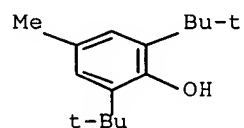
RN 115-77-5 HCAPLUS

CN 1,3-Propanediol, 2,2-bis(hydroxymethyl)- (CA INDEX NAME)



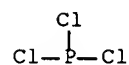
RN 128-37-0 HCAPLUS

CN Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (CA INDEX NAME)



RN 7719-12-2 HCAPLUS

CN Phosphorous trichloride (CA INDEX NAME)



L47 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:391291 HCAPLUS Full-text

DOCUMENT NUMBER: 146:462122

TITLE: Process for preparation of alkyl substituted 2-oxetanone

INVENTOR(S): Zhao, Xuelin

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 4pp.  
CODEN: CNXXEV

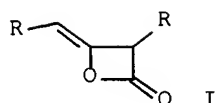
DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1939913	A	20070404	CN 2006-10124431	20060901
PRIORITY APPLN. INFO.:			CN 2006-10124431	20060901
OTHER SOURCE(S):		CASREACT 146:462122; MARPAT 146:462122		
GI				

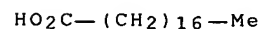


- AB This invention provides a process for the preparation of alkyl substituted 2-oxetanones I [wherein R = alkyl], which comprises treatment of fatty acid with trichlorophosphine to obtain acyl chloride, followed by condensation in the presence of ion exchanger to give the title compds. For example, stearic acid was reacted with trichlorophosphine followed by condensation in di-Me ether to give I (R = hexadecyl) (87%).
- CC 27-5 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 45
- ST prepn oxetanone fatty acid condensation ion exchanger
- IT Condensation reaction  
Fuel gases  
Ion exchangers  
(preparation of alkyl substituted 2-oxetanone)
- IT 7647-01-0P, Hydrogen chloride, preparation 13598-36-2P, Phosphonic acid  
RL: BYP (Byproduct); IMF (Industrial manufacture);  
SPN (Synthetic preparation); PREP (Preparation)  
(preparation of alkyl substituted 2-oxetanone)
- IT 57-11-4, Stearic acid, reactions 7719-12-2, Trichlorophosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of alkyl substituted 2-oxetanone)
- IT 13598-36-2P, Phosphonic acid  
RL: BYP (Byproduct); IMF (Industrial manufacture);  
SPN (Synthetic preparation); PREP (Preparation)  
(preparation of alkyl substituted 2-oxetanone)
- RN 13598-36-2 HCAPLUS
- CN Phosphonic acid (CA INDEX NAME)

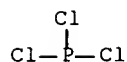


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

- IT 57-11-4, Stearic acid, reactions 7719-12-2, Trichlorophosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of alkyl substituted 2-oxetanone)
- RN 57-11-4 HCAPLUS
- CN Octadecanoic acid (CA INDEX NAME)



RN 7719-12-2 HCAPLUS  
 CN Phosphorous trichloride (CA INDEX NAME)



L47 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:227585 HCAPLUS Full-text

DOCUMENT NUMBER: 144:459864

TITLE: Achiral and Chiral Transition Metal Complexes with  
 Modularly Designed Tridentate PNP Pincer-Type Ligands  
 Based on N-Heterocyclic Diamines

AUTHOR(S): Benito-Garagorri, David; Becker, Eva; Wiedermann,  
 Julia; Lackner, Wolfgang; Pollak, Martin; Mereiter,  
 Kurt; Kisala, Joanna; Kirchner, Karl

CORPORATE SOURCE: Institute of Applied Synthetic Chemistry and Institute  
 of Chemical Technologies and Analytics, Vienna  
 University of Technology, Vienna, A-1060, Austria

SOURCE: Organometallics (2006), 25(8), 1900-1913  
 CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:459864

AB The synthesis and characterization of Mo, Fe, Ru, Ni, Pd, and Pt complexes containing new achiral and chiral PNP pincer-type ligands based on the N-heterocyclic diamines 2,6-diaminopyridine, N,N'-di-10-undecenyl-2,6-diaminopyridine, N,N'-dihexyl-2,6-diaminopyridine, and 2,6-diamino-4-phenyl-1,3,5-triazine are reported. The new PNP ligands were prepared conveniently in high yield by treatment of the resp. N-heterocyclic diamines with 2 equiv of a variety of achiral and chiral R<sub>2</sub>PCl compds. in the presence of base. Mo PNP complexes [Mo(PNP)(CO)<sub>3</sub>PNP] were obtained by treatment of [Mo(CO)<sub>3</sub>(MeCN)<sub>3</sub>] with 1 equiv of the resp. PNP ligand. They react with I<sub>2</sub> to give novel seven-coordinate pincer complexes [Mo(PNP)(CO)<sub>3</sub>I]<sup>+</sup> and [Mo(PNP)(CO)<sub>2</sub>(MeCN)I]<sup>+</sup> depending of whether the reaction is carried out in CH<sub>2</sub>Cl<sub>2</sub> or MeCN. With [Fe(H<sub>2</sub>O)<sub>6</sub>](BF<sub>4</sub>)<sub>2</sub> and 1 equiv of PNP ligand in MeCN dicationic complexes [Fe(PNP)(MeCN)<sub>3</sub>](BF<sub>4</sub>)<sub>2</sub> were obtained. The cis and trans dichloride complexes [Ru(PNP)(PPh<sub>3</sub>)Cl<sub>2</sub>] were prepared by a ligand exchange reaction of [RuCl<sub>2</sub>(PPh<sub>3</sub>)<sub>3</sub>] with a stoichiometric amount of the resp. PNP ligand. Cationic PNP complexes of Ni(II), [Ni(PNP)Br]Br, were synthesized by the reaction of [NiBr<sub>2</sub>(DME)] with 1 equiv of PNP ligand. In similar fashion, treatment of [M(COD)X<sub>2</sub>] (M = Pd, Pt; X = Cl, Br) with 1 equiv of PNP ligand yields the cationic square-planar complexes [M(PNP)X]X. If the reaction is carried out in the presence of the halide scavenger KCF<sub>3</sub>SO<sub>3</sub>, complexes [M(PNP)X]CF<sub>3</sub>SO<sub>3</sub> were obtained, which are better soluble in nonpolar solvents than the analogous halide compds. X-ray structures of representative Mo, Fe, Ru, Ni, and Pd PNP complexes were determined. Finally, the use of the Pd complexes as catalysts for the Suzuki-Miyaura coupling of some aryl bromides and Ph boronic acid was examined.

CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 25, 29, 67, 75

IT 110370-69-9P 885665-51-0P 885665-52-1P  
 885665-53-2P 885665-54-3P 885665-55-4P  
 885665-56-5P 885665-58-7P 885665-60-1P  
 885665-61-2P 885701-54-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and complexation with transition metals)

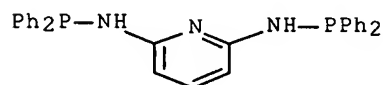
IT 160413-35-4P 723758-66-5P 885666-10-4P 885666-11-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and reactant for preparation of heterocyclic amines having  
phosphorus containing pincers)

IT 885665-57-6P 885665-59-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and reaction with chlorodiphenylphosphine)

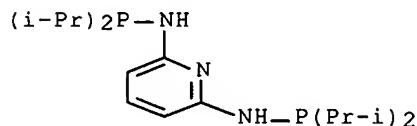
IT 91-76-9, 2,6-Diamino-4-phenyl-1,3,5-triazine 141-86-6,  
2,6-Diaminopyridine 822-39-9, 2-Chloro-1,3,2-dioxaphospholane  
1079-66-9, Chlorodiphenylphosphine 13716-10-4,  
Di-tert-butylchlorophosphine 16611-68-0 40244-90-4,  
Chlorodiisopropylphosphine 130642-32-9 137156-22-0  
204856-68-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for preparation of heterocyclic amines having phosphorus  
containing  
pincers)

IT 110370-69-9P 885665-51-0P 885665-52-1P  
885665-53-2P 885665-54-3P 885665-55-4P  
885665-56-5P 885665-58-7P 885665-60-1P  
885665-61-2P 885701-54-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and complexation with transition metals)

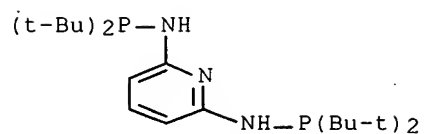
RN 110370-69-9 HCAPLUS  
CN Phosphinous amide, N,N'-2,6-pyridinediylbis[P,P-diphenyl- (CA INDEX NAME)



RN 885665-51-0 HCAPLUS  
CN 2,6-Pyridinediamine, N2,N6-bis[bis(1-methylethyl)phosphino]- (CA INDEX NAME)

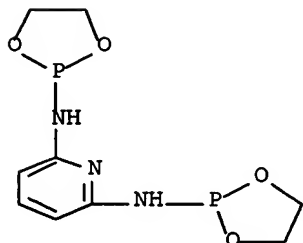


RN 885665-52-1 HCAPLUS  
CN 2,6-Pyridinediamine, N2,N6-bis[bis(1,1-dimethylethyl)phosphino]- (CA INDEX NAME)



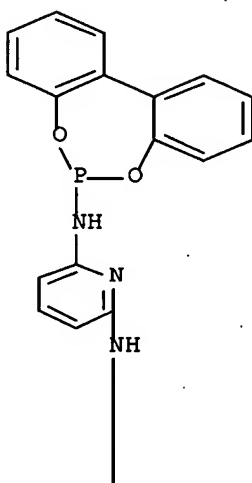
RN 885665-53-2 HCAPLUS

CN 2,6-Pyridinediamine, N,N'-bis(1,3,2-dioxaphospholan-2-yl)- (9CI) (CA INDEX NAME)



RN 885665-54-3 HCAPLUS

CN 2,6-Pyridinediamine, N2,N6-bis(dibenzo[d,f][1,3,2]dioxaphosphepin-6-yl)- (CA INDEX NAME)

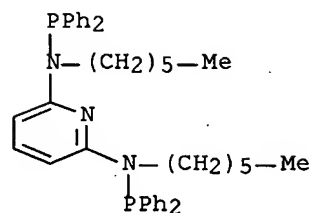


PAGE 1-A

CN 1,3,2-Dioxaphospholane-4,5-dicarboxylic acid, 2,2'-(2,6-pyridinediylldiimino)bis-, tetramethyl ester, (4S,4'S,5S,5'S)- (9CI) (CA INDEX NAME)

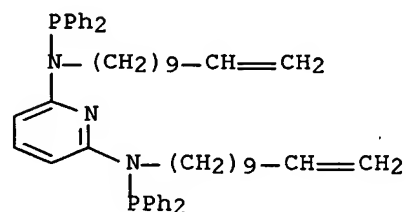
CN 1,3,2-Dioxaphospholane-4,5-dicarboxylic acid, 2,2'-(2,6-pyridinediylldiimino)bis-, tetrakis(1-methylethyl) ester, (4R,4'R,5R,5'R)-(9CI) (CA INDEX NAME)

CN    Phosphinous amide, N,N'-2,6-pyridinediylbis[N-hexyl-P,P-diphenyl- (9CI)  
(CA INDEX NAME)



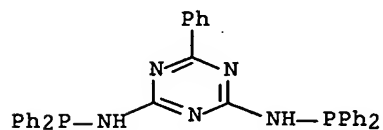
RN 885665-60-1 HCAPLUS

CN Phosphinous amide, N,N'-2,6-pyridinediylbis[P,P-diphenyl-N-10-undecenyl-]  
(9CI) (CA INDEX NAME)



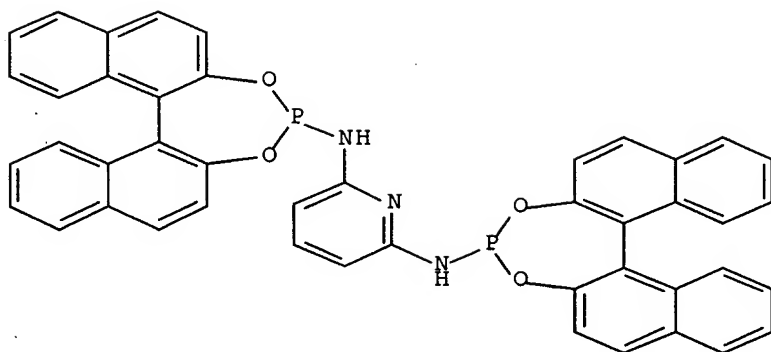
RN 885665-61-2 HCAPLUS

CN Phosphinous amide, N,N'-(6-phenyl-1,3,5-triazine-2,4-diyl)bis[P,P-diphenyl-]  
(9CI) (CA INDEX NAME)



RN 885701-54-2 HCAPLUS

CN 2,6-Pyridinediamine, N,N'-bis[(11bS)-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphin-4-yl]- (9CI) (CA INDEX NAME)



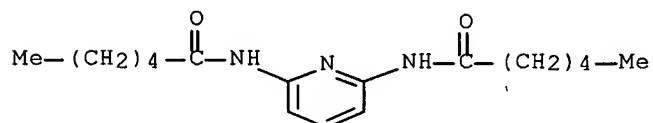
IT 160413-35-4P 723758-66-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reactant for preparation of heterocyclic amines having phosphorus containing pincers)

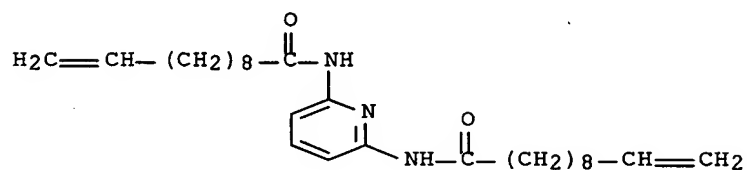
RN 160413-35-4 HCAPLUS

CN Hexanamide, N,N'-2,6-pyridinediylbis- (CA INDEX NAME)



RN 723758-66-5 HCAPLUS

CN 10-Undecenamide, N,N'-2,6-pyridinediylbis- (CA INDEX NAME)



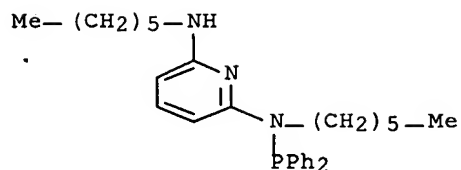
IT 885665-57-6P 885665-59-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction with chlorodiphenylphosphine)

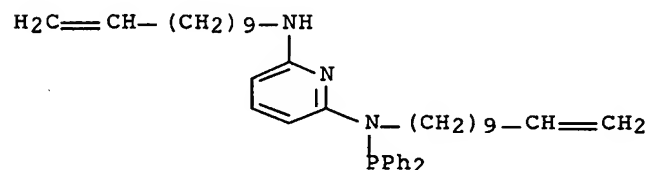
RN 885665-57-6 HCAPLUS

CN Phosphinous amide, N-hexyl-N-[6-(hexylamino)-2-pyridinyl]-P,P-diphenyl- (9CI) (CA INDEX NAME)



RN 885665-59-8 HCAPLUS

CN Phosphinous amide, P,P-diphenyl-N-10-undecenyl-N-[6-(10-undecenylamino)-2-pyridinyl]- (9CI) (CA INDEX NAME)



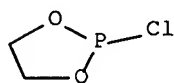
IT 822-39-9, 2-Chloro-1,3,2-dioxaphospholane 1079-66-9,  
Chlorodiphenylphosphine 13716-10-4, Di-tert-butylchlorophosphine  
16611-68-0 40244-90-4, Chlorodiisopropylphosphine  
130642-32-9 137156-22-0 204856-68-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant for preparation of heterocyclic amines having phosphorus  
containing  
pincers)

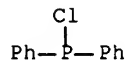
RN 822-39-9 HCAPLUS

CN 1,3,2-Dioxaphospholane, 2-chloro- (CA INDEX NAME)



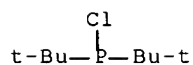
RN 1079-66-9 HCAPLUS

CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



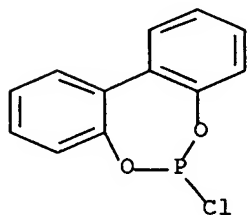
RN 13716-10-4 HCAPLUS

CN Phosphinous chloride, P,P-bis(1,1-dimethylethyl)- (CA INDEX NAME)



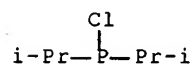
RN 16611-68-0 HCAPLUS

CN Dibenzo[d,f][1,3,2]dioxaphosphepin, 6-chloro- (CA INDEX NAME)



RN 40244-90-4 HCAPLUS

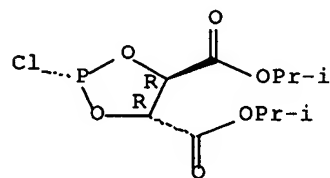
CN Phosphinous chloride, P,P-bis(1-methylethyl)- (CA INDEX NAME)



RN 130642-32-9 HCAPLUS

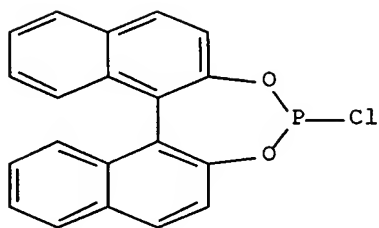
CN 1,3,2-Dioxaphospholane-4,5-dicarboxylic acid, 2-chloro-, bis(1-methylethyl) ester, (4R,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 137156-22-0 HCAPLUS

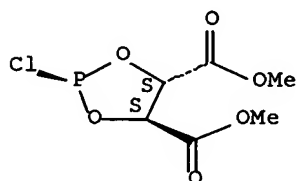
CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-chloro-, (11bs)- (CA INDEX NAME)



RN 204856-68-8 HCAPLUS

CN 1,3,2-Dioxaphospholane-4,5-dicarboxylic acid, 2-chloro-, dimethyl ester,  
(4S,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1178316 HCAPLUS Full-text

DOCUMENT NUMBER: 144:88390

TITLE: Mechanistic investigation of the thermal decomposition of Biphenn(Oi-Pr)PtEt<sub>2</sub>: An entrance into C-C single bond activation?

AUTHOR(S): Ruhland, Klaus; Herdtweck, Eberhardt

CORPORATE SOURCE: Department Chemie, Lehrstuhl fuer Anorganische Chemie, TU Muenchen, Garching, D-85748, Germany

SOURCE: Journal of Organometallic Chemistry (2005), 690(23), 5215-5236

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 144:88390

AB Biphenn(Oi-Pr) and (COD)PtCl<sub>2</sub> give Biphenn(Oi-Pr)PtCl<sub>2</sub> which upon treating with Et Grignard forms Biphenn(Oi-Pr)PtEt<sub>2</sub>. The thermal decomposition of Biphenn(Oi-Pr)PtEt<sub>2</sub> was investigated in the temperature range of 353-383 K. The clean and quant. formation of the Pt(Ethene) adduct was observed X-ray structures of a mol. in the solid state of all three reaction products and two further related complexes with Ph fingers instead of i-Pr have been determined For the complexes with i-Pr fingers a decisive deviation from a square plane is observed in contrast to the complexes with Ph fingers. The P-Pt-P angle increases from about 95° in Biphenn(Oi-Pr)PtCl<sub>2</sub> to about 120° in Biphenn(Oi-Pr)Pt(Ethene), forcing the bridging C-C single bond of the biphenyl fragment as near as 4.17 Å to the Pt center. No through-space coupling between the bridging C atoms and the Pt center could be observed in <sup>13</sup>C NMR spectroscopy.

No bond lengthening of the bridging C-C single bond in the biphenyl fragment was observed in Biphen(OPi-Pr)Pt(Ethene) in comparison to the precursor complexes. The thermal decomposition of Biphen(OPi-Pr)PtEt<sub>2</sub> can be described by a first-order kinetic and the activation parameters were determined (temperature range: 353-383 K;  $\Delta H$  .dbldag. =  $173.8 \pm 16.2$  kJ/mol and  $\Delta S$  .dbldag. =  $104.7 \pm 44.1$  J/(mol K)). The reaction kinetics were also measured for perdeuterated Et groups yielding in a kinetic isotopic effect of  $1.56 \pm 0.14$  which was almost temperature-independent. Selective deuteration at  $\alpha$  and  $\beta$  position of the Et group, resp., showed that  $\beta$ -H elimination takes place fast in comparison to the complete thermolysis. In the temperature range of 333-353 K only a scrambling of the deuterium atoms was found without further decomposition (temperature range: 333-353 K;  $\Delta$ scram H .dbldag. =  $76.1 \pm 15.2$  kJ/mol,  $\Delta$ scram S .dbldag. =  $-80.7 \pm 45.5$  J/(mol K) for Biphen(OPi-Pr)PtEt<sub>2</sub>-d<sub>6</sub>). The ethene is not lost during the scrambling process. The scrambling process is connected with a primary KIE decisively larger than 1.56. Biphen(OPi-Pr)Pt(Ethene) exchanges the coordinated ethene with ethene in solution as proven by labeling expts. Both a dissociative and an associative mechanism could be shown to take place as ethene exchange reaction by VT1H NMR spectroscopy via line shape anal. (temperature range: 333-373 K;  $\Delta$ ass H.dbldag. =  $26.9 \pm 29.6$  kJ/mol,  $\Delta$ ass S.dbldag. =  $-148.0 \pm 87.5$  J/(mol K),  $\Delta$ dis H.dbldag. =  $86.0 \pm 6.5$  kJ/mol,  $\Delta$ dis S.dbldag. =  $5.4 \pm 17.8$  J/(mol K)). The Pt(0) complex formed during the dissociative loss of ethene activates several substrates among them: O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>SiPh<sub>2</sub> via Si-H activation, MeI presumably via forming a cationic Me adduct and ethane via C-H activation but it was proven that the bridging C-C single bond of the biphenyl fragment is not even temporarily broken. The materials were characterized by <sup>1</sup>H NMR, <sup>13</sup>C NMR, <sup>31</sup>P NMR, <sup>195</sup>Pt NMR, EA, MS, IR, x-ray anal. and polarimetric measurement where necessary.

CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22, 69, 75, 78

IT Activation entropy

Exchange reaction

Reaction enthalpy

Reaction mechanism

Thermal decomposition

Thermal decomposition kinetics

(preparation, structure, and mechanistic investigation of kinetics of thermal decomposition of ethylplatinum biphenyldioxy complex as an entrance into carbon-carbon single bond activation)

IT 1079-66-9, Chlorodiphenylphosphine 1806-29-7, [1,1'-Biphenyl]-2,2'-diol 12080-32-9, Dichloro(1,5-cyclooctadiene)platinum 16523-54-9, Chlorodicyclohexylphosphine 18531-99-2 40244-90-4, Chlorodiisopropylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation, structure, and mechanistic investigation of kinetics of thermal decomposition of ethylplatinum biphenyldioxy complex as an entrance into carbon-carbon single bond activation)

IT 179259-60-0P 872217-44-2P 872217-45-3P 872217-47-5P 872217-49-7P 872322-97-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation, structure, and mechanistic investigation of kinetics of thermal decomposition of ethylplatinum biphenyldioxy complex as an entrance into carbon-carbon single bond activation)

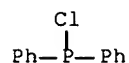
IT 1079-66-9, Chlorodiphenylphosphine 1806-29-7, [1,1'-Biphenyl]-2,2'-diol 16523-54-9, Chlorodicyclohexylphosphine 18531-99-2 40244-90-4, Chlorodiisopropylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation, structure, and mechanistic investigation of kinetics of thermal decomposition of ethylplatinum biphenyldioxy complex as an entrance into carbon-carbon single bond activation)

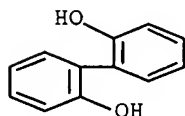
RN 1079-66-9 HCAPLUS

CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



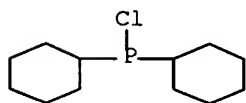
RN 1806-29-7 HCAPLUS

CN [1,1'-Biphenyl]-2,2'-diol (CA INDEX NAME)



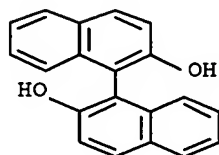
RN 16523-54-9 HCAPLUS

CN Phosphinous chloride, P,P-dicyclohexyl- (CA INDEX NAME)



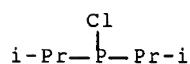
RN 18531-99-2 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-diol, (1S)- (CA INDEX NAME)



RN 40244-90-4 HCAPLUS

CN Phosphinous chloride, P,P-bis(1-methylethyl)- (CA INDEX NAME)



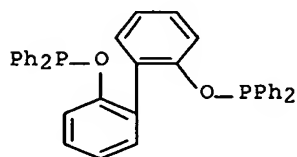
IT 179259-60-0P 872217-44-2P 872217-45-3P  
872322-97-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)

(preparation, structure, and mechanistic investigation of kinetics of  
thermal decomposition of ethylplatinum biphenyldioxy complex as an entrance  
into carbon-carbon single bond activation)

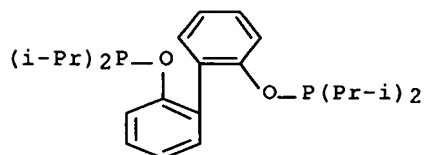
RN 179259-60-0 HCAPLUS

CN Phosphinous acid, diphenyl-, [1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA  
INDEX NAME)



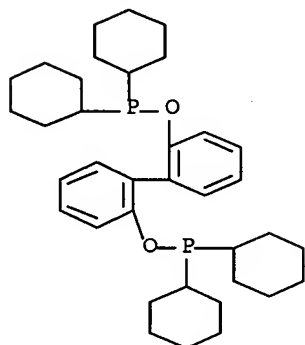
RN 872217-44-2 HCAPLUS

CN Phosphinous acid, bis(1-methylethyl)-, [1,1'-biphenyl]-2,2'-diyl ester  
(9CI) (CA INDEX NAME)



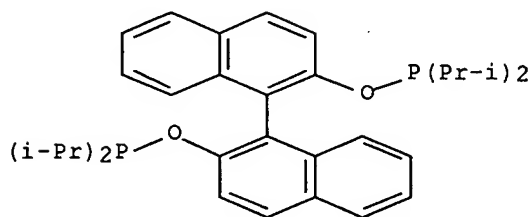
RN 872217-45-3 HCAPLUS

CN Phosphinous acid, dicyclohexyl-, [1,1'-biphenyl]-2,2'-diyl ester (9CI)  
(CA INDEX NAME)



RN 872322-97-9 HCAPLUS

CN Phosphinous acid, bis(1-methylethyl)-, (1S)-[1,1'-binaphthalene]-2,2'-diyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:612314 HCAPLUS Full-text

DOCUMENT NUMBER: 143:97529

TITLE: Improved process for preparation of organoacylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in the presence of basic ion-exchange resins.

INVENTOR(S): Ortmann, Dagmara; Wiese, Klaus-Diether; Moeller, Oliver; Fridag, Dirk

PATENT ASSIGNEE(S): Oxeno Olefinchemie G.m.b.H., Germany

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063781	A1	20050714	WO 2004-EP52675	20041027
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10360772	A1	20050728	DE 2003-10360772	20031223
EP 1697390	A1	20060906	EP 2004-820837	20041027
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
CN 1898256	A	20070117	CN 2004-80038836	20041027
MX 2006PA05977	A	20060706	MX 2006-PA5977	20060525

US 2007117995  
PRIORITY APPLN. INFO.:

A1 20070524

US 2006-584492

20061208

DE 2003-10360772

A 20031223

WO 2004-EP52675

W 20041027

OTHER SOURCE(S): MARPAT 143:97529

AB Acylphosphites, preferably 2-L-5-R4-6-R3-7-R2-8-R1-benzo[e][1,3,2]-dioxaphosphorin-4-ones (L = halide or C- or O-bound organyl; R1-R4 = (un)substituted alkyl or (hetero)aryl C1-50 groups, eventually containing ether, ketone, ester sulfide, sulfonyl, sulfoxide, sulfonamide, amino and imino functions, or eventually forming benzannelated ring systems) useful as softeners, fire protectors, UV-stabilizers, antioxidants, intermediates for preparation of pesticides or pharmaceuticals (no data), were prepared by continuous or discontinuous process comprising the reaction of hydroxycarboxylic acids, preferably of 3-R1-4-R2-5-R3-6-R4-salicylic acids with phosphorous halide derivs.  $PXnR3-n$  (R = L, n = 2, 3) in inert solvents in the presence of weak basic ion exchange resins, preferably dialkylamino-containing styrene-divinylbenzene copolymers (e.g., Lewatit MP-62, DOWEX M-43 and Amberlyst A21), preferably at 20-100°, preferably in the presence of homogeneous weak base (e.g. N-methylpyrrolidone, methylimidazole) in base:resin molar ratio of 0.001 to 0.01. Mixed acylphosphites containing trialkyl phosphite, phosphonite or phosphinite structural fragments, 2-X10-5-R1-6-R2-7-R3-8-R4- benzo[e][1,3,2]-dioxaphosphorin-4-ones (same R1-R4, X1 = R5R6POQO, where Q = at least divalent organic radical) were prepared by mono-esterification of phosphorous halides with glycols followed by reaction with corresponding 2-chloro-1,3,2-dioxaphosphorin-4-ones. In an example, 2-chloro-4H-naphtho[1,2-d]-1,3,2-dioxaphosphorin-4-on was prepared by reaction of 0.05 mol of 1-hydroxy-2-naphthalenecarboxylic acid with 58 g of ion exchanger Lewatit MP-62 and 0.005 mol of  $PCl_3$  in 250 mL of toluene at room temperature in 75% yield. The inventive method makes it possible to easily produce trivalent organophosphorus compds. such as ligands in rhodium complexes that can be used as catalysts during hydroformylation.

IC ICM C07F009-6571

ICS C07F009-6574

CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 45

ST phosphite acylphosphite salicylphosphite prepn esterification basic ion exchange resin; dioxaphosphorinone benzo naphtho prepn hydroxy carboxylic acid phosphorous chloride; ion exchange resin basic esterification phosphorous chloride hydroxycarboxylic acid

IT Phosphites

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(acylphosphites; improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)

IT Carboxylic acids, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydroxy; improved process for preparation of acylphosphites by

condensation

of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)

IT Cation exchangers

Condensation reaction

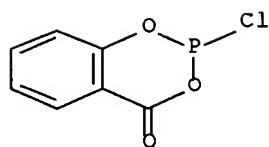
(improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)

IT Anhydrides

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

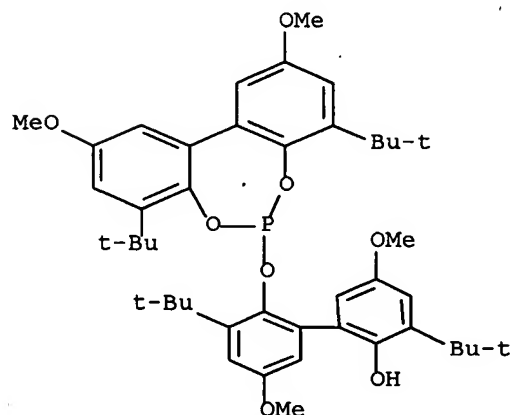
(mixed, acylphosphites; improved process for preparation of acylphosphites

- by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- IT 5381-99-7P 108609-96-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant);  
 SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- IT 352662-26-1P 352662-32-9P  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 69-72-7, Salicylic acid, reactions 71-23-8, 1-Propanol, reactions 71-36-3, 1-Butanol, reactions 75-65-0, tert-Butanol, reactions 78-92-2, 2-Butanol 86-48-6 104-76-7 108-95-2, Phenol, reactions 120-80-9, Catechol, reactions 123-31-9, 1,4-Benzenediol, reactions 569-42-6, 1,8-Naphthalenediol 602-09-5, [1,1'-Binaphthalene]-2,2'-diol 604-60-4, [2,2'-Binaphthalene]-1,1'-diol 2430-22-0 9062-74-2, Lewatit MP 62 14078-41-2 55505-26-5 85763-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- IT 60-29-7, Diethyl ether, miscellaneous 67-64-1, Acetone, miscellaneous 67-68-5, Dimethyl sulfoxide, miscellaneous 68-12-2, Dimethylformamide, miscellaneous 71-43-2, Benzene, miscellaneous 75-05-8, Acetonitrile, miscellaneous 75-97-8, Pinacolone 78-93-3, 2-Butanone, miscellaneous 96-49-1, Ethylene carbonate 100-47-0, Benzonitrile, miscellaneous 100-66-3, Anisole, miscellaneous 107-12-0, Propanenitrile 108-20-3, Diisopropyl ether 108-32-7, Propylene carbonate 108-87-2, Methylcyclohexane 108-88-3, Toluene, miscellaneous 109-66-0, Pentane, miscellaneous 109-99-9, Tetrahydrofuran, miscellaneous 110-19-0, Isobutyl acetate 110-54-3, Hexane, miscellaneous 110-82-7, Cyclohexane, miscellaneous 123-91-1, 1,4-Dioxane, miscellaneous 126-33-0, Sulfolane 141-78-6, Ethyl acetate, miscellaneous 142-82-5, Heptane, miscellaneous 540-88-5, tert-Butyl acetate 646-06-0, 1,3-Dioxolane 872-50-4, N-Methylpyrrolidone, miscellaneous 1330-20-7, Xylene, miscellaneous 1634-04-4 4437-85-8  
 RL: MSC (Miscellaneous)  
 (solvent; improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- IT 5381-99-7P 108609-96-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant);  
 SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)
- RN 5381-99-7 HCAPLUS
- CN 4H-1,3,2-Benzodioxaphosphorin-4-one, 2-chloro- (CA INDEX NAME)



RN 108609-96-7 HCAPLUS

CN [1,1'-Biphenyl]-2-ol, 2'--[[4,8-bis(1,1-dimethylethyl)-2,10-dimethoxydibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy]-3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy- (CA INDEX NAME)



IT 352662-26-1P 352662-32-9P

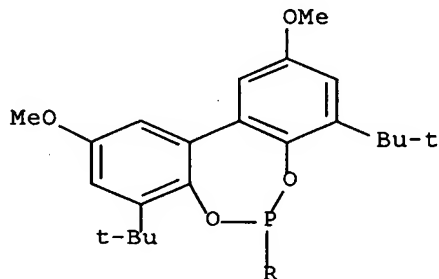
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)

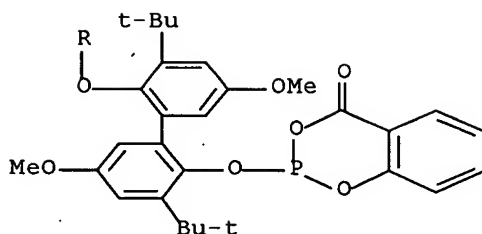
RN 352662-26-1 HCAPLUS

CN 4H-1,3,2-Benzodioxaphosphorin-4-one, 2-[[2'-[[4,8-bis(1,1-dimethylethyl)-2,10-dimethoxydibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy]-3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy[1,1'-biphenyl]-2-yl]oxy]- (CA INDEX NAME)

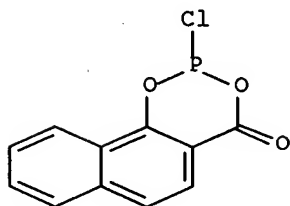
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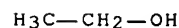
PAGE 2-A



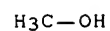
RN 352662-32-9 HCAPLUS  
 CN 4H-Naphtho[1,2-d]-1,3,2-dioxaphosphorin-4-one, 2-chloro- (CA INDEX NAME)



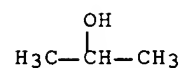
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 69-72-7, Salicylic acid, reactions 71-23-8, 1-Propanol, reactions 71-36-3, 1-Butanol, reactions 75-65-0, tert-Butanol, reactions 78-92-2, 2-Butanol 86-48-6 104-76-7 108-95-2, Phenol, reactions 120-80-9, Catechol, reactions 123-31-9, 1,4-Benzenediol, reactions 569-42-6, 1,8-Naphthalenediol 602-09-5, [1,1'-Binaphthalene]-2,2'-diol 604-60-4, [2,2'-Binaphthalene]-1,1'-diol 2430-22-0 14078-41-2 55505-26-5 85763-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (improved process for preparation of acylphosphites by condensation of hydroxycarboxylic acids with phosphorous halides in presence of basic ion exchange resins)  
 RN 64-17-5 HCAPLUS  
 CN Ethanol (CA INDEX NAME)



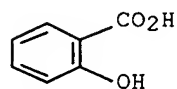
RN 67-56-1 HCAPLUS  
 CN Methanol (CA INDEX NAME)



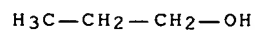
RN 67-63-0 HCAPLUS  
CN 2-Propanol (CA INDEX NAME)



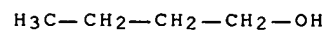
RN 69-72-7 HCAPLUS  
CN Benzoic acid, 2-hydroxy- (CA INDEX NAME)



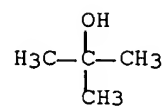
RN 71-23-8 HCAPLUS  
CN 1-Propanol (CA INDEX NAME)



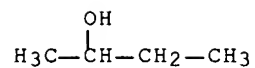
RN 71-36-3 HCAPLUS  
CN 1-Butanol (CA INDEX NAME)



RN 75-65-0 HCAPLUS  
CN 2-Propanol, 2-methyl- (CA INDEX NAME)

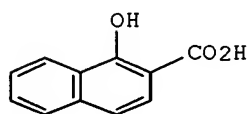


RN 78-92-2 HCAPLUS  
CN 2-Butanol (CA INDEX NAME)



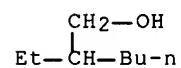
RN 86-48-6 HCAPLUS

CN 2-Naphthalenecarboxylic acid, 1-hydroxy- (CA INDEX NAME)



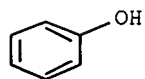
RN 104-76-7 HCAPLUS

CN 1-Hexanol, 2-ethyl- (CA INDEX NAME)



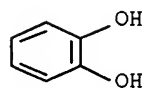
RN 108-95-2 HCAPLUS

CN Phenol (CA INDEX NAME)



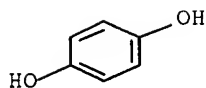
RN 120-80-9 HCAPLUS

CN 1,2-Benzenediol (CA INDEX NAME)

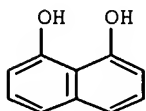


RN 123-31-9 HCAPLUS

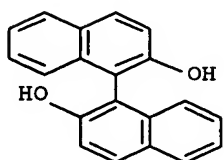
CN 1,4-Benzenediol (CA INDEX NAME)



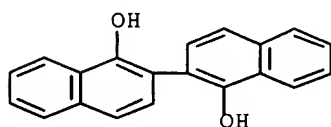
RN 569-42-6 HCAPLUS  
 CN 1,8-Naphthalenediol (CA INDEX NAME)



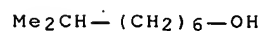
RN 602-09-5 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol (CA INDEX NAME)



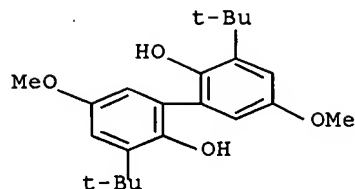
RN 604-60-4 HCAPLUS  
 CN [2,2'-Binaphthalene]-1,1'-diol (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2430-22-0 HCAPLUS  
 CN 1-Octanol, 7-methyl- (CA INDEX NAME)



RN 14078-41-2 HCAPLUS  
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy-  
 (CA INDEX NAME)



RN 55505-26-5 HCAPLUS  
 CN 1-Nonanol, 8-methyl- (CA INDEX NAME)

Me<sub>2</sub>CH—(CH<sub>2</sub>)<sub>7</sub>—OH

RN 85763-57-1 HCAPLUS  
 CN 1-Dodecanol, 11-methyl- (CA INDEX NAME)

Me<sub>2</sub>CH—(CH<sub>2</sub>)<sub>10</sub>—OH

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:612310 HCAPLUS Full-text

DOCUMENT NUMBER: 143:97527

TITLE: Improved process for preparation of organic phosphites, phosphonites and phosphinites by condensation of phosphorous halides with organic hydroxy compounds in the presence of basic ion exchange resins

INVENTOR(S): Ortmann, Dagmara; Wiese, Klaus-Diether; Moeller, Oliver; Fridag, Dirk

PATENT ASSIGNEE(S): Oxeno Olefinchemie G.m.b.H., Germany

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063776	A1	20050714	WO 2004-EP52729	20041029
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,			

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
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 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG

DE 10360771	A1	20050728	DE 2003-10360771	20031223
EP 1697387	A1	20060906	EP 2004-820839	20041029
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1898253	A	20070117	CN 2004-80038825	20041029
MX 2006PA07258	A	20060818	MX 2006-PA7258	20060622
US 2007112219	A1	20070517	US 2006-584148	20060622
PRIORITY APPLN. INFO.:			DE 2003-10360771	A 20031223
			WO 2004-EP52729	W 20041029

OTHER SOURCE(S): MARPAT 143:97527

AB The phosphorus(III) esters PXR(OR1) (X = Cl, Br, I or OR2; R = OR3 or R, R1, R2 R3 = same or different (un)substituted C1-50 (cyclo)alkyl or aryl, optionally bound together, optionally containing amino, nitrile, ketone, aldehyde, ester, ether, silyl, amide or carbonate functions), diesters XRPOQOPXR (same X, R; Q = C1-50 (un)substituted (cyclo)alkane- or arenediyl), useful as softeners, fire protectors, UV-stabilizers and antioxidants, as well as intermediates for production of pesticides and pharmaceuticals (no data), were prepared by condensation of PXnR3-n (X = Cl, Br, I; same R; n = 1-3) with organic hydroxy compds. R1OH (same R1) or diols or biphenols HOQOH in the presence of weakly basic ion exchange resins, preferably styrene-divinylbenzene copolymers, containing dimethylamino groups (e.g., Lewatit MP-62, DOWEX M-43 or Amberlyst A21) at preferable temps. 20-100° in inert solvents with optional homogeneous basic additives, according to continuous or discontinuous protocols. In an example, 3,3'-di-tert-butyl-5,5'-dimethoxy-1,1'-biphenyl- 2,2'-diyl 3,3'-di-tert-butyl-2'-hydroxy-5,5'-dimethoxy-1,1'-biphenyl-2-yl phosphite (1, 11.8 g, 93% yield) was prepared by reaction of 0.015 mol of PCl3 with 0.03 mol of 3,3'-di-tert-butyl-5,5'-dimethoxy-2,2'-biphenol in 100 mol of toluene in the presence of 26.5 g of Lewatit MP-62 at 60° for 2 h. In a comparison example, 1 was prepared in the presence of pyridine without basic resin, implying reaction with lithium phenolate and removal of the residual pyridine, as highly-viscous product in 93% yield. The inventive method permits the production of trivalent organophosphorus compds., which can be used e.g. as ligands in rhodium complexes that can be utilized as a catalyst in hydroformylation.

IC ICM C07F009-02

ICS C07F009-6571; C07F009-6574

CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 45

ST phosphorus ester phosphite phosphonite phosphinite prepn improved process;  
 phosphorous ester alkyl cycloalkyl aryl prepn improved process;  
 esterification phosphorous chloride alc phenol basic ion  
 exchange resin

IT Cation exchangers

(basic; improved process for preparation of organic phosphites,  
 phosphonites

and phosphinites by reaction of phosphorous halides with hydroxy  
 compds. in presence of basic ion exchange resins)

IT Phosphorus acids

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP  
 (Preparation)

(esters, phosphonites, phosphinites; improved process for preparation of  
 organic phosphites, phosphonites and phosphinites by reaction of  
 phosphorous halides with hydroxy compds. in presence of basic  
 ion exchange resins)

IT Esterification

(improved process for preparation of organic phosphites, phosphonites and

- phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT Phosphites  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT Alcohols, reactions  
 Glycols, reactions  
 Phenols, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT Organic compounds, preparation  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (phosphorus-containing; improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT 9062-74-2, Lewatit MP 62  
 RL: CAT (Catalyst use); USES (Uses)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 71-23-8, 1-Propanol, reactions 71-36-3, 1-Butanol, reactions 75-65-0, tert-Butanol, reactions 78-92-2, 2-Butanol 104-76-7, 2-Ethyl-1-hexanol 108-95-2, Phenol, reactions 120-80-9, 1,2-Benzenediol, reactions 123-31-9, 1,4-Benzenediol, reactions 569-42-6, 1,8-Naphthalenediol 602-09-5, [1,1'-Binaphthalene]-2,2'-diol 604-60-4, [2,2'-Binaphthalene]-1,1'-diol 1806-29-7, [1,1'-Biphenyl]-2,2'-diol 2430-22-0 14078-41-2 16611-68-0, 1,1'-Biphenyl-2,2'-diyl phosphorochloridite 55505-26-5 85763-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT 108609-96-7P 121627-17-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)
- IT 60-29-7, Diethyl ether, miscellaneous 67-64-1, Acetone, miscellaneous 67-68-5, Dimethyl sulfoxide, miscellaneous 68-12-2, Dimethylformamide, miscellaneous 71-43-2, Benzene, miscellaneous 75-05-8, Acetonitrile, miscellaneous 75-97-8, Pinacolone 78-93-3, 2-Butanone, miscellaneous 96-49-1, Ethylene carbonate 100-47-0, Benzonitrile, miscellaneous 100-66-3, Anisole, miscellaneous 107-12-0, Propanenitrile 108-20-3, Diisopropyl ether 108-32-7, Propylene carbonate 108-87-2, Methylcyclohexane 108-88-3, Toluene, miscellaneous 108-90-7, Chlorobenzene, miscellaneous 109-66-0, Pentane, miscellaneous 109-99-9, Tetrahydrofuran, miscellaneous 110-19-0, Isobutyl acetate 110-54-3, Hexane, miscellaneous 110-82-7, Cyclohexane, miscellaneous 123-91-1, 1,4-Dioxane, miscellaneous 126-33-0, Sulfolane 141-78-6,

Ethyl acetate, miscellaneous 142-82-5, Heptane, miscellaneous  
 540-88-5, tert-Butyl acetate 646-06-0, 1,3-Dioxolane 872-50-4,  
 N-Methylpyrrolidone, miscellaneous 1330-20-7, Xylene, miscellaneous  
 1634-04-4, tert-Butyl methyl ether 4437-85-8

RL: MSC (Miscellaneous)

(solvent; improved process for preparation of organic phosphites,  
 phosphonites

and phosphinites by reaction of phosphorous halides with hydroxy  
 compds. in presence of basic ion exchange resins)

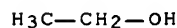
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions  
 67-63-0, 2-Propanol, reactions 71-23-8, 1-Propanol,  
 reactions 71-36-3, 1-Butanol, reactions 75-65-0,  
 tert-Butanol, reactions 78-92-2, 2-Butanol 104-76-7,  
 2-Ethyl-1-hexanol 108-95-2, Phenol, reactions 120-80-9  
 , 1,2-Benzenediol, reactions 123-31-9, 1,4-Benzenediol,  
 reactions 569-42-6, 1,8-Naphthalenediol 602-09-5,  
 [1,1'-Binaphthalene]-2,2'-diol 604-60-4, [2,2'-Binaphthalene]-  
 1,1'-diol 1806-29-7, [1,1'-Biphenyl]-2,2'-diol 2430-22-0  
 14078-41-2 16611-68-0, 1,1'-Biphenyl-2,2'-diyl  
 phosphorochloridite 55505-26-5 85763-57-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(improved process for preparation of organic phosphites, phosphonites and  
 phosphinites by reaction of phosphorous halides with hydroxy compds. in  
 presence of basic ion exchange resins)

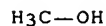
RN 64-17-5 HCAPLUS

CN Ethanol (CA INDEX NAME)



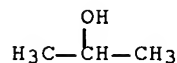
RN 67-56-1 HCAPLUS

CN Methanol (CA INDEX NAME)



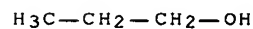
RN 67-63-0 HCAPLUS

CN 2-Propanol (CA INDEX NAME)

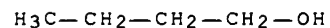


RN 71-23-8 HCAPLUS

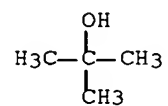
CN 1-Propanol (CA INDEX NAME)



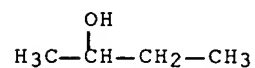
RN 71-36-3 HCAPLUS  
CN 1-Butanol (CA INDEX NAME)



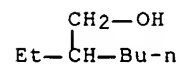
RN 75-65-0 HCAPLUS  
CN 2-Propanol, 2-methyl- (CA INDEX NAME)



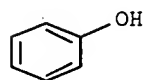
RN 78-92-2 HCAPLUS  
CN 2-Butanol (CA INDEX NAME)



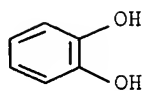
RN 104-76-7 HCAPLUS  
CN 1-Hexanol, 2-ethyl- (CA INDEX NAME)



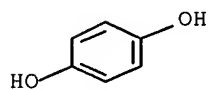
RN 108-95-2 HCAPLUS  
CN Phenol (CA INDEX NAME)



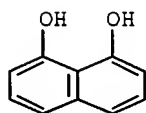
RN 120-80-9 HCAPLUS  
CN 1,2-Benzenediol (CA INDEX NAME)



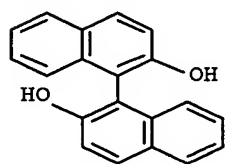
RN 123-31-9 HCAPLUS  
CN 1,4-Benzenediol (CA INDEX NAME)



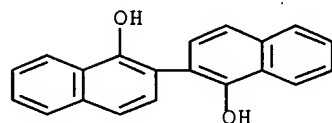
RN 569-42-6 HCAPLUS  
CN 1,8-Naphthalenediol (CA INDEX NAME)



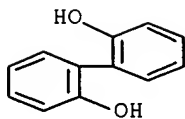
RN 602-09-5 HCAPLUS  
CN [1,1'-Binaphthalene]-2,2'-diol (CA INDEX NAME)



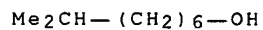
RN 604-60-4 HCAPLUS  
CN [2,2'-Binaphthalene]-1,1'-diol (7CI, 8CI, 9CI) (CA INDEX NAME)



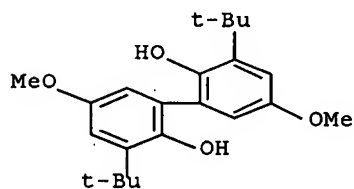
RN 1806-29-7 HCAPLUS  
CN [1,1'-Biphenyl]-2,2'-diol (CA INDEX NAME)



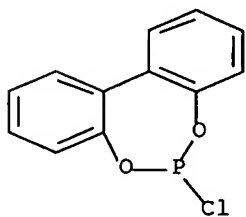
RN 2430-22-0 HCAPLUS  
 CN 1-Octanol, 7-methyl- (CA INDEX NAME)



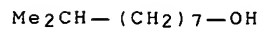
RN 14078-41-2 HCAPLUS  
 CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy-  
 (CA INDEX NAME)



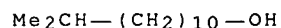
RN 16611-68-0 HCAPLUS  
 CN Dibenzo[d,f][1,3,2]dioxaphosphepin, 6-chloro- (CA INDEX NAME)



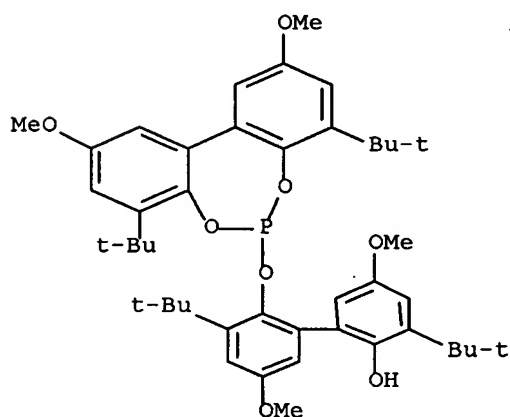
RN 55505-26-5 HCAPLUS  
 CN 1-Nonanol, 8-methyl- (CA INDEX NAME)



RN 85763-57-1 HCAPLUS  
 CN 1-Dodecanol, 11-methyl- (CA INDEX NAME)

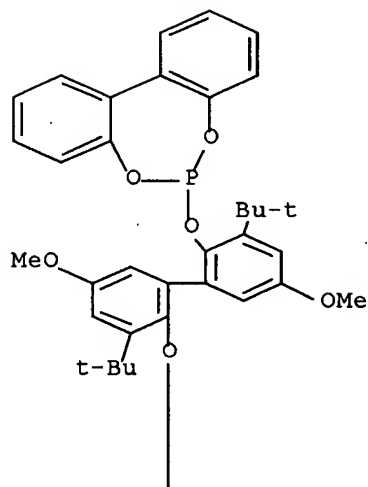


IT 108609-96-7P 121627-17-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (improved process for preparation of organic phosphites, phosphonites and phosphinites by reaction of phosphorous halides with hydroxy compds. in presence of basic ion exchange resins)  
 RN 108609-96-7 HCAPLUS  
 CN [1,1'-Biphenyl]-2-ol, 2'-[[4,8-bis(1,1-dimethylethyl)-2,10-dimethoxydibenzo[d,f][1,3,2]dioxaphosphepin-6-yl]oxy]-3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy- (CA INDEX NAME)

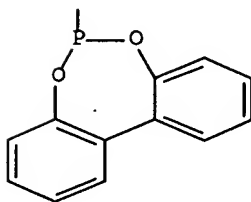


RN 121627-17-6 HCAPLUS  
 CN Dibenzo[d,f][1,3,2]dioxaphosphepin, 6,6'-[[3,3'-bis(1,1-dimethylethyl)-5,5'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:465454 HCAPLUS Full-text

DOCUMENT NUMBER: 141:140164

TITLE: Synthesis of iridium complexes with new planar chiral chelating phosphinyl-imidazolylidene ligands and their application in asymmetric hydrogenation

AUTHOR(S): Focken, Thilo; Raabe, Gerhard; Bolm, Carsten

CORPORATE SOURCE: Institut fuer Organische Chemie der RWTH Aachen, Aachen, D-52056, Germany

SOURCE: Tetrahedron: Asymmetry (2004), 15(11), 1693-1706

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:140164

AB The synthesis of planar chiral phosphinoimidazolium salts such as (Rp)-3-(4-diphenyl-phosphino[2.2]paracyclophan-12-ylmethyl)-1-(2,6-diisopropylphenyl)imidazolium bromide starting from enantiopure (Rp)-4,12-dibromo[2.2]paracyclophane is reported. After deprotonation of these salts

and a subsequent reaction with [Ir(COD)Cl]<sub>2</sub>, chelating iridium imidazolylidene complexes were obtained. These complexes catalyzed the asym. hydrogenation of functionalized and simple alkenes to give the corresponding alkanes with high enantiomeric excess.

CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 75

IT Hydrogenation catalysts

(stereoselective; preparation and catalyst use of phosphinyl(imidazolylmethyl)paracyclophane iridiums via complexation of phosphinyl(imidazolylmethyl)paracyclophane with cyclooctadiene iridium chloride followed by anion exchange with sodium tetrakis(aryl)borate)

IT 726201-65-6P 726201-67-8P 726201-69-0P 727419-45-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation and catalyst use of phosphinyl(imidazolylmethyl)paracyclophane iridiums via complexation of phosphinyl(imidazolylmethyl)paracyclophane with cyclooctadiene iridium chloride followed by anion exchange with sodium tetrakis(aryl)borate)

IT 12112-67-3, 1,5-Cyclooctadieneiridium chloride dimer 79060-88-1, Sodium tetrakis(3,5-bistrifluoromethylphenyl)borate

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation and catalyst use of phosphinyl(imidazolylmethyl)paracyclophane iridiums via complexation of phosphinyl(imidazolylmethyl)paracyclophane with cyclooctadiene iridium chloride followed by anion exchange with sodium tetrakis(aryl)borate)

IT 1079-66-9, Chlorodiphenylphosphine 196316-30-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of (diphenylphosphinyl)hydroxymethylparacyclophane via phosphorylation of dibromoparacyclophane with chlorodiphenylphosphine followed by hydroxymethylation in the preparation of phosphinyl(imidazolylmethyl)paracyclophane iridium)

IT 727419-33-2P 727419-34-3P

RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation of (diphenylphosphinyl)hydroxymethylparacyclophane via phosphorylation of dibromoparacyclophane with chlorodiphenylphosphine followed by hydroxymethylation in the preparation of phosphinyl(imidazolylmethyl)paracyclophane iridium)

IT 7164-98-9, N-Phenylimidazole 25364-44-7 25364-47-0 727419-40-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of phosphinyl(imidazolylmethyl)paracyclophanes via bromination of (diphenylphosphinyl)hydroxymethylparacyclophanes followed by substitution with imidazoles in the preparation of phosphinyl(arylmethyl)paracyclophane iridiums)

IT 727419-35-4P 727419-37-6P 727419-38-7P

727419-39-8P 727419-41-2P 727419-42-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

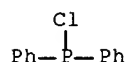
(preparation of phosphinyl(imidazolylmethyl)paracyclophanes via bromination of (diphenylphosphinyl)hydroxymethylparacyclophanes followed by substitution with imidazoles in the preparation of phosphinyl(arylmethyl)paracyclophane iridiums)

IT 727419-43-4P

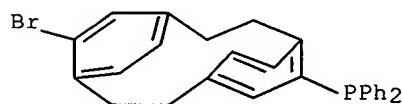
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation, crystal structure, and catalyst use of phosphinyl(arylmethyl)paracyclophane iridium hexafluorophosphate via complexation of phosphinyl(arylmethyl)paracyclophane with cyclooctadiene iridium chloride followed by anion

exchange)  
 IT 617-52-7 833-81-8 21758-19-0 22946-43-6 38454-62-5 38454-63-6  
 52386-78-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (stereoselective preparation of alkanes via  
 phosphinyl(imidazolylmethyl)para  
 cyclophane iridium-catalyzed asym. hydrogenation of alkenes)  
 IT 1079-66-9, Chlorodiphenylphosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of (diphenylphosphinyl)hydroxymethylparacyclophane via  
 phosphorylation of dibromoparacyclophane with chlorodiphenylphosphine  
 followed by hydroxymethylation in the preparation of  
 phosphinyl(imidazolylmethyl)paracyclophane iridium)  
 RN 1079-66-9 HCAPLUS  
 CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



IT 727419-33-2P 727419-34-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of (diphenylphosphinyl)hydroxymethylparacyclophane via  
 phosphorylation of dibromoparacyclophane with chlorodiphenylphosphine  
 followed by hydroxymethylation in the preparation of  
 phosphinyl(imidazolylmethyl)paracyclophane iridium)  
 RN 727419-33-2 HCAPLUS  
 CN Phosphine, (11-bromotricyclo[8.2.2.2<sup>4,7</sup>]hexadeca-4,6,10,12,13,15-hexaen-5-yl)diphenyl-, stereoisomer (9CI) (CA INDEX NAME)



of (diphenylphosphinyl)hydroxymethylparacyclophanes followed by substitution with imidazoles in the preparation of phosphinyl(arylmethyl)paracyclophane iridiums)

RN 727419-40-1 HCAPLUS

CN Tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaene-5-methanol, 11-(diphenylphosphino)-, stereoisomer (9CI) (CA INDEX NAME)



IT 727419-35-4P 727419-37-6P 727419-38-7P

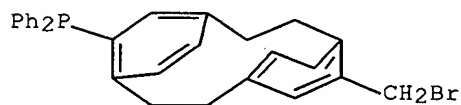
727419-39-8P 727419-42-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of phosphinyl(imidazolylmethyl)paracyclophanes via bromination of (diphenylphosphinyl)hydroxymethylparacyclophanes followed by substitution with imidazoles in the preparation of phosphinyl(arylmethyl)paracyclophane iridiums)

RN 727419-35-4 HCAPLUS

CN Phosphine, [11-(bromomethyl)tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaen-5-yl]diphenyl-, stereoisomer (9CI) (CA INDEX NAME)



RN 727419-37-6 HCAPLUS

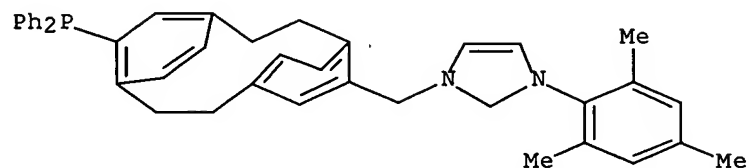
CN 1H-Imidazolium, 1-[[11-(diphenylphosphino)tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaen-5-yl]methyl]-3-phenyl-, bromide, stereoisomer (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 727419-38-7 HCAPLUS

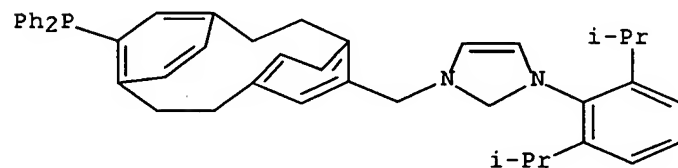
CN 1H-Imidazolium, 1-[[11-(diphenylphosphino)tricyclo[8.2.2.24,7]hexadeca-4,6,10,12,13,15-hexaen-5-yl]methyl]-3-(2,4,6-trimethylphenyl)-, bromide, stereoisomer (9CI) (CA INDEX NAME)

● Br<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 727419-39-8 HCAPLUS

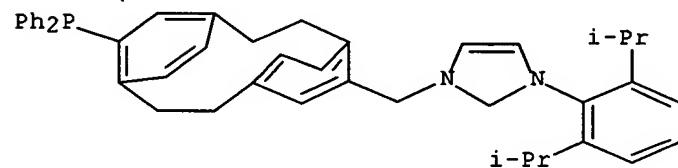
CN 1H-Imidazolium, 1-[2,6-bis(1-methylethyl)phenyl]-3-[[11-(diphenylphosphino)tricyclo[8.2.2.2.4,7]hexadeca-4,6,10,12,13,15-hexaen-5-yl]methyl]-, bromide, stereoisomer (9CI) (CA INDEX NAME)

● Br<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 727419-42-3 HCAPLUS

CN 1H-Imidazolium, 1-[2,6-bis(1-methylethyl)phenyl]-3-[[11-(diphenylphosphino)tricyclo[8.2.2.2.4,7]hexadeca-4,6,10,12,13,15-hexaen-5-yl]methyl]-, bromide, stereoisomer (9CI) (CA INDEX NAME)

● Br<sup>-</sup>

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

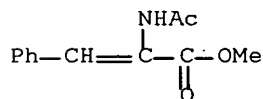
IT 52386-78-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(stereoselective preparation of alkanes via  
phosphinyl(imidazolylmethyl)para  
cyclophane iridium-catalyzed asym. hydrogenation of alkenes)

RN 52386-78-4 HCAPLUS

CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, methyl ester (CA INDEX NAME)



REFERENCE COUNT: 128 THERE ARE 128 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT

L47 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:56092 HCAPLUS Full-text

DOCUMENT NUMBER: 140:270820

TITLE: Triazine-Based Polyfluorinated Triquaternaly Liquid  
Salts: Synthesis, Characterization, and Application as  
Solvents in Rhodium(I)-Catalyzed Hydroformylation of  
1-Octene

AUTHOR(S): Omotowa, Bamidele A.; Shreeve, Jean'ne M.

CORPORATE SOURCE: Department of Chemistry, University of Idaho, Moscow,  
ID, 83844-2343, USA

SOURCE: Organometallics (2004), 23(4), 783-791

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

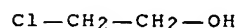
DOCUMENT TYPE: Journal

LANGUAGE: English

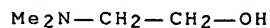
OTHER SOURCE(S): CASREACT 140:270820

AB Silylation of N-(2-hydroxyethyl)imidazole, HOCH<sub>2</sub>CH<sub>2</sub>Im (1), with hexamethyldisilazane gave N-(2-trimethylsilyloxyethyl)imidazole, Me<sub>3</sub>SiOCH<sub>2</sub>CH<sub>2</sub>Im (2), which underwent quaternization reactions with the alkyl halides and gave three new N-(trimethylsilyloxyethyl) imidazolium halides, Me<sub>3</sub>SiOCH<sub>2</sub>CH<sub>2</sub>Im+RX<sup>-</sup>, where Im<sup>+</sup> = imidazolium and R/X = Me/I (3), CH<sub>2</sub>CH<sub>2</sub>F/Br (4), and CH<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>/I (5). The Et ether, formed from 1 and Et bromide was quaternized with CF<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>I followed by anion exchange with LiN(SO<sub>2</sub>CF<sub>3</sub>)<sub>2</sub> to obtain [CF<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Im+CH<sub>2</sub>CH<sub>2</sub>OEt N(SO<sub>2</sub>CF<sub>3</sub>)<sub>2</sub>]<sup>-</sup> (8). The metathesis reactions of 3-5 with cyanuric fluoride in acetonitrile at 25° gave tris[2-(N'-alkylimidazolium)ethoxy]triazine trihalides, N<sub>3</sub>C<sub>3</sub>(OCH<sub>2</sub>CH<sub>2</sub>Im+RX<sup>-</sup>)<sub>3</sub>, where R/X = Me/I (9), CH<sub>2</sub>CH<sub>2</sub>F/Br (10), and CH<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>/I (11). Two neutral trimeric compds., N<sub>3</sub>C<sub>3</sub>(OCH<sub>2</sub>CH<sub>2</sub>Im)<sub>3</sub> (12) and N<sub>3</sub>C<sub>3</sub>(OCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>)<sub>3</sub> (14), were prepared from reactions of cyanuric fluoride and Me<sub>3</sub>SiOCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub> or 2, resp. The quaternization of 12 with MeI gave tris[oxoethyl(trimethyl)ammonium]triazine, N<sub>3</sub>C<sub>3</sub>(OCH<sub>2</sub>CH<sub>2</sub>N+Me<sub>3</sub>I<sup>-</sup>)<sub>3</sub> (14). Subsequent exchange of the halides in 9-11 and N<sub>3</sub>C<sub>3</sub>(OCH<sub>2</sub>CH<sub>2</sub>N+Me<sub>3</sub>I<sup>-</sup>)<sub>3</sub> (15) with the weakly coordinating anions of AgOSO<sub>2</sub>CF<sub>3</sub>, LiN(SO<sub>2</sub>CF<sub>3</sub>)<sub>2</sub>, AgNO<sub>3</sub>, or AgClO<sub>4</sub> resulted in new triquaternaly salts that were characterized by NMR, elemental analyses, and, for some of the compds., mass spectroscopy. Phys. (m.p. and d.) and thermal properties of compds. prepared were determined with differential scanning calorimeter (DSC) and thermogravimetric analyzer (TGA). In Rh(I)-catalyzed hydroformylation of 1-octene, with Ph<sub>2</sub>P(NMPBTA) [NMPBTA = N-methylpyridinium bis(trifluoromethanesulfonyl)amide] as ligand, the turnover frequency (TOF), conversion, isomer selectivity (n/i), and recyclability were compared when triquaternaly salts or monoquaternaly were used as solvents in the biphasic

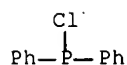
- hydroformylation process. A change of metal/ligand ratio resulted in significant increase of n/i selectivity, but was marginal with 8 as solvent.
- CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))  
Section cross-reference(s): 23, 67
- IT 107-07-3, 2-Chloroethanol, reactions 108-01-0,  
2-N,N-Dimethylaminoethanol 111-66-0, 1-Octene 288-32-4, Imidazole,  
reactions 460-37-7, 3,3,3-Trifluoropropyl iodide 675-14-9, Cyanuric  
fluoride 762-49-2, 1-Bromo-2-fluoroethane 1079-66-9,  
Chlorodiphenylphosphine 3430-13-5, 5-Bromo-2-methylpyridine  
90076-65-6, Lithium bis(trifluoromethylsulfonyl)amide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis, characterization, and application of triazine-based  
polyfluorinated triquaternary liquid salts as solvents in  
rhodium-catalyzed hydroformylation of octene)
- IT 1615-14-1P, 1-(2-Hydroxyethyl)imidazole 16654-64-1P  
132682-77-0P 197712-86-0P 673686-35-6P 673686-67-4P  
673687-75-7P  
RL: RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(synthesis, characterization, and application of triazine-based  
polyfluorinated triquaternary liquid salts as solvents in  
rhodium-catalyzed hydroformylation of octene)
- IT 673687-83-7P  
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic  
preparation); PREP (Preparation); RACT (Reactant or  
reagent); USES (Uses)  
(thermal properties; synthesis, characterization, and application of  
triazine-based polyfluorinated triquaternary liquid salts as solvents in  
rhodium-catalyzed hydroformylation of octene)
- IT 107-07-3, 2-Chloroethanol, reactions 108-01-0,  
2-N,N-Dimethylaminoethanol 1079-66-9, Chlorodiphenylphosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis, characterization, and application of triazine-based  
polyfluorinated triquaternary liquid salts as solvents in  
rhodium-catalyzed hydroformylation of octene)
- RN 107-07-3 HCAPLUS  
CN Ethanol, 2-chloro- (CA INDEX NAME)



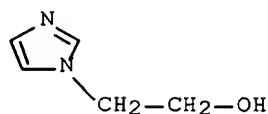
- RN 108-01-0 HCAPLUS  
CN Ethanol, 2-(dimethylamino)- (CA INDEX NAME)



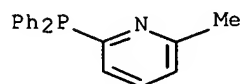
- RN 1079-66-9 HCAPLUS  
CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



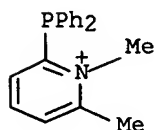
IT 1615-14-1P, 1-(2-Hydroxyethyl)imidazole 132682-77-0P  
 673687-75-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis, characterization, and application of triazine-based  
 polyfluorinated triquaternal liquid salts as solvents in  
 rhodium-catalyzed hydroformylation of octene)  
 RN 1615-14-1 HCAPLUS  
 CN 1H-Imidazole-1-ethanol (CA INDEX NAME)



RN 132682-77-0 HCAPLUS  
 CN Pyridine, 2-(diphenylphosphino)-6-methyl- (9CI) (CA INDEX NAME)



RN 673687-75-7 HCAPLUS  
 CN Pyridinium, 2-(diphenylphosphino)-1,6-dimethyl-, iodide (9CI) (CA INDEX NAME)

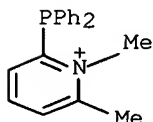


IT 673687-83-7P  
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic  
 preparation); PREP (Preparation); RACT (Reactant or  
 reagent); USES (Uses)  
 (thermal properties; synthesis, characterization, and application of  
 triazine-based polyfluorinated triquaternal liquid salts as solvents in  
 rhodium-catalyzed hydroformylation of octene)

RN 673687-83-7 HCAPLUS  
 CN Pyridinium, 2-(diphenylphosphino)-1,6-dimethyl-, salt with  
 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide (1:1)  
 (9CI) (CA INDEX NAME)

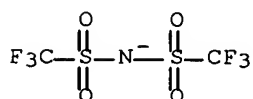
CM 1

CRN 673687-82-6  
 CMF C19 H19 N P



CM 2

CRN 98837-98-0  
 CMF C2 F6 N O4 S2

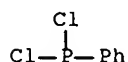


REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2003:688384 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:270979  
 TITLE: Ligand ambivalence in pallada(platina)cyclic complexes  
 of a rigid phosphine  
 AUTHOR(S): Malik, K. M. Abdul; Newman, Paul D.  
 CORPORATE SOURCE: Department of Chemistry, Cardiff University, Cardiff,  
 CF10 3TB, UK  
 SOURCE: Dalton Transactions (2003), (18), 3516-3525  
 CODEN: DTARAF; ISSN: 1477-9226  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 140:270979

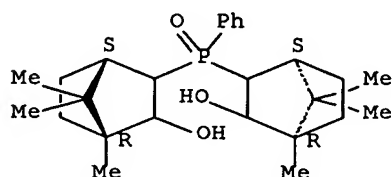
AB Pd(II) and Pt(II) complexes of a chiral pentacyclic phosphine,  
 (1S,4R,4aS,5aR,6R,9S,9aS,10aR)-4,6,11,11,12,12-hexamethyl-10-  
 phenyldodecahydro-1,4:6,9-dimethanophenoxaphosphinine (phenop), show diverse  
 structures dependent upon the chosen metal-containing starting material and  
 reaction conditions. With Pd(OAc)<sub>2</sub>, a P,C-cyclometalated dimeric complex  
 [Pd(μ-κ<sup>2</sup>-OAc)(μ-κ<sup>1</sup>-OAc)(κP,κC14-phenop)]<sub>2</sub>, 4, was obtained through metalation  
 at the C(14) Me to form a six-membered chelate. The acetato bridged dimer is  
 readily converted to the halo-bridged species [Pd(μ-X)(κP,κC14-phenop)]<sub>2</sub>,

- where X is chloride (5) or bromide (6). Reaction of one equiv phenop with Pd(COD)Cl<sub>2</sub> or Na<sub>2</sub>PdCl<sub>4</sub> gives a different phosphapalladacycle dimer [Pd(μ-Cl)(κP,κC8-phenop)]<sub>2</sub>, 7, with a five-membered chelate and metalation at the C(8) methylene C. The analogous Pt derivative [Pt(μ-Cl)(κP,κC8-phenop)]<sub>2</sub>, 8, was obtained from the 1:1 reaction of phenop and K<sub>2</sub>PtCl<sub>4</sub>. An unusual ligand-ligand coupled product, 9, was isolated in low yield from the reaction of phenop and Pd(COD)Cl<sub>2</sub>. The zero-valent Pd(κP-phenop)<sub>2</sub>, 10, and a monodentate Ag(I) derivative, [Ag(κP-phenop)(CF<sub>3</sub>SO<sub>3</sub>)], 11, also were prepared. These new complexes were fully characterized by spectroscopic and other techniques including single crystal x-ray structure detns. of phenop, 4-8, 10 and 11.
- CC 29-13 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 75, 78
- IT 464-49-3, (1R)-Camphor 644-97-3, Dichlorophenylphosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for preparation of chiral dimethanophenoxaphosphinine ligand)
- IT 673457-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(for preparation of chiral dimethanophenoxaphosphinine ligand)
- IT 502904-12-3  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(multinuclear NMR spectra and anion bridge exchange with halide)
- IT 502904-14-5P, Phenop  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation, crystal and mol. structure, cyclometalation or other reactions with palladium(II) and platinum(II), and coordination to silver(I))
- IT 644-97-3, Dichlorophenylphosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for preparation of chiral dimethanophenoxaphosphinine ligand)
- RN 644-97-3 HCAPLUS
- CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)



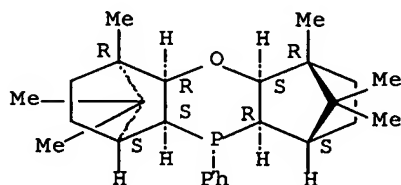
- IT 673457-76-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(for preparation of chiral dimethanophenoxaphosphinine ligand)
- RN 673457-76-6 HCAPLUS
- CN Bicyclo[2.2.1]heptan-2-ol, 3,3'-(phenylphosphinylidene)bis[1,7,7-trimethyl-, (1R,1'R,4S,4'S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 502904-14-5P, Phenop  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)  
 ; PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, crystal and mol. structure, cyclometalation or other  
 reactions  
 with palladium(II) and platinum(II), and coordination to silver(I))  
 RN 502904-14-5 HCAPLUS  
 CN 1,4:6,9-Dimethano-1H-phenoxaphosphine, dodecahydro-4,6,11,11,12,12-  
 hexamethyl-10-phenyl-, (1 $\alpha$ ,4 $\alpha$ ,4 $\alpha$ ,5 $\alpha$ ,6 $\beta$ ,9.be  
 ta.,9 $\alpha$ ,10 $\alpha$ ,10 $\alpha$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:8309 HCAPLUS Full-text

DOCUMENT NUMBER: 138:205290

TITLE: Solid-phase chemical synthesis of phosphonoacetate and thiophosphonoacetate oligodeoxynucleotides

AUTHOR(S): Dellinger, Douglas J.; Sheehan, David M.; Christensen, Nanna K.; Lindberg, James G.; Caruthers, Marvin H.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO, 80309-0215, USA

SOURCE: Journal of the American Chemical Society (2003), 125(4), 940-950

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:205290

AB Phosphonoacetate and thiophosphonoacetate oligodeoxynucleotides were prepared via a solid-phase synthesis strategy. Under Reformatskii reaction conditions, novel esterified acetic acid phosphinodiamidites were synthesized and condensed with appropriately protected 5'-O-(4, 4'-dimethoxytrityl)-2'-deoxynucleosides to yield 3'-O-phosphinoamidite reactive monomers. These synthons when activated with tetrazole were used with an automated DNA synthesizer to prepare phosphonoacetic acid modified internucleotide linkages on controlled pore glass. The phosphonoacetate coupling products were quant. oxidized at each step with (1S)-(+)-(10-camporsulfonyl)oxaziridine or 3H-1,2-benzodithiol-3-one-1,1-dioxide to produce mixed sequence phosphonoacetate and thiophosphonoacetate oligodeoxynucleotides with an average per cycle coupling efficiency of greater than 97%. Completely deprotected, modified oligodeoxynucleotides were purified by reverse-phase HPLC and characterized by ion exchange HPLC, 31P NMR, and MALDI/TOF mass spectroscopy. Both analogs

were stable toward hydrolysis with snake venom phosphodiesterase and stimulated RNase H1 activity.

CC 33-10 (Carbohydrates)

Section cross-reference(s): 7, 9

IT 96-32-2, Methyl bromoacetate 123-75-1, Pyrrolidine, reactions  
598-21-0, Bromoacetyl bromide 996-50-9 2083-91-2 7719-12-2,  
Phosphorus trichloride 13635-04-6 21090-30-2  
40615-39-2 64325-78-6 68892-41-1  
100898-63-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(solid phase synthesis and enzymic hydrolysis of of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotide duplexes)

IT 685-83-6P 2283-11-6P 3348-44-5P  
5666-12-6P 19726-37-5P 56183-63-2P  
59356-27-3P 63135-66-0P 411234-01-0P  
411234-02-1P 411234-03-2P 411234-17-8P  
411234-18-9P 411234-22-5P 411234-24-7P  
411234-26-9P 499992-04-0P 499992-05-1P  
499992-06-2P 499992-11-9P 499992-13-1P  
499992-19-7P 499992-21-1P

RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(solid phase synthesis and enzymic hydrolysis of of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotide duplexes)

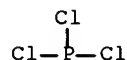
IT 7719-12-2, Phosphorus trichloride 13635-04-6  
21090-30-2 40615-39-2 64325-78-6  
68892-41-1 100898-63-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(solid phase synthesis and enzymic hydrolysis of of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotide duplexes)

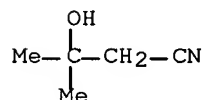
RN 7719-12-2 HCAPLUS

CN Phosphorous trichloride (CA INDEX NAME)



RN 13635-04-6 HCAPLUS

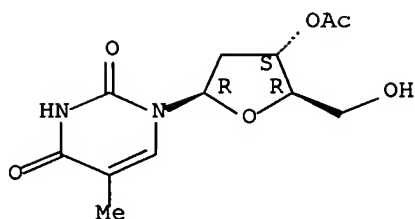
CN Butanenitrile, 3-hydroxy-3-methyl- (CA INDEX NAME)



RN 21090-30-2 HCAPLUS

CN Thymidine, 3'-acetate (CA INDEX NAME)

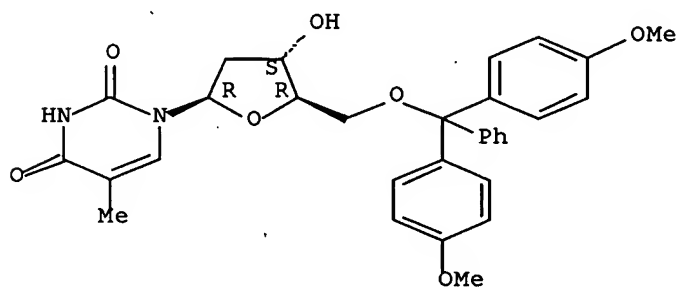
Absolute stereochemistry.



RN 40615-39-2 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]- (CA INDEX NAME)

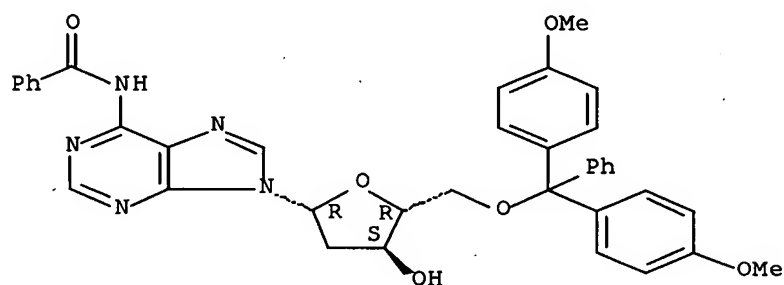
Absolute stereochemistry. Rotation (+).



RN 64325-78-6 HCAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-  
(CA INDEX NAME)

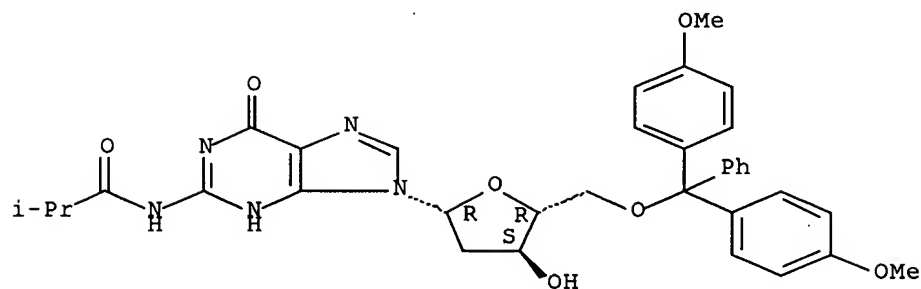
Absolute stereochemistry.



RN 68892-41-1 HCAPLUS

CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-N-(2-methyl-1-oxopropyl)-  
(CA INDEX NAME)

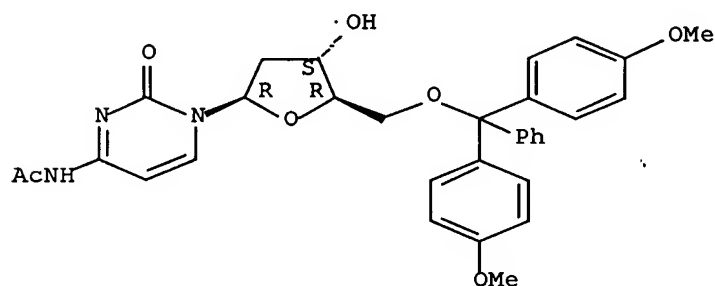
Absolute stereochemistry.



RN 100898-63-3 HCAPLUS

CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



IT 685-83-6P 2283-11-6P 3348-44-5P  
5666-12-6P 19726-37-5P 56183-63-2P  
59356-27-3P 63135-66-0P 411234-01-0P  
411234-03-2P 411234-17-8P 411234-18-9P  
411234-22-5P 411234-24-7P 411234-26-9P  
499992-04-0P 499992-05-1P 499992-06-2P  
499992-11-9P 499992-13-1P 499992-19-7P  
499992-21-1P

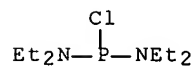
RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(solid phase synthesis and enzymic hydrolysis of of phosphonoacetate  
and thiophosphonoacetate oligodeoxyribonucleotide duplexes)

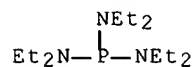
RN 685-83-6 HCAPLUS

CN Phosphorodiamidous chloride, N,N,N',N'-tetraethyl- (CA INDEX NAME)



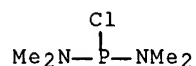
RN 2283-11-6 HCAPLUS

CN Phosphorous triamide, N,N,N',N',N'',N''-hexaethyl- (CA INDEX NAME)



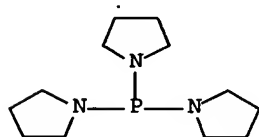
RN 3348-44-5 HCAPLUS

CN Phosphorodiamidous chloride, N,N,N',N'-tetramethyl- (CA INDEX NAME)



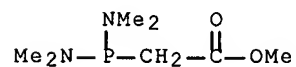
RN 5666-12-6 HCAPLUS

CN Pyrrolidine, 1,1',1''-phosphinidynetris- (CA INDEX NAME)



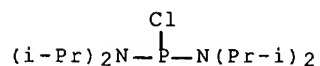
RN 19726-37-5 HCAPLUS

CN Acetic acid, [bis(dimethylamino)phosphino]-, methyl ester (8CI, 9CI) (CA INDEX NAME)



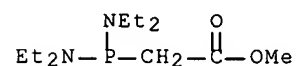
RN 56183-63-2 HCAPLUS

CN Phosphorodiamidous chloride, N,N,N',N'-tetrakis(1-methylethyl)- (CA INDEX NAME)



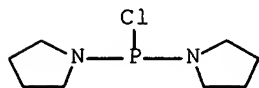
RN 59356-27-3 HCAPLUS

CN Acetic acid, [bis(diethylamino)phosphino]-, methyl ester (9CI) (CA INDEX NAME)

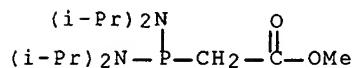


RN 63135-66-0 HCAPLUS

CN Phosphinous chloride, di-1-pyrrolidinyl- (9CI) (CA INDEX NAME)

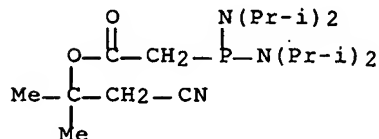


RN 411234-01-0 HCAPLUS

CN Acetic acid, [bis[bis(1-methylethyl)amino]phosphino]-, methyl ester (9CI)  
(CA INDEX NAME)

RN 411234-03-2 HCAPLUS

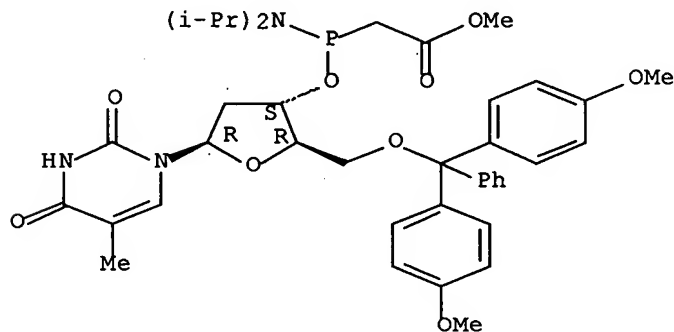
CN Acetic acid, [bis[bis(1-methylethyl)amino]phosphino]-, 2-cyano-1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 411234-17-8 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 3'-[P-(2-methoxy-2-oxoethyl)-N,N-bis(1-methylethyl)phosphonamidite] (9CI) (CA INDEX NAME)

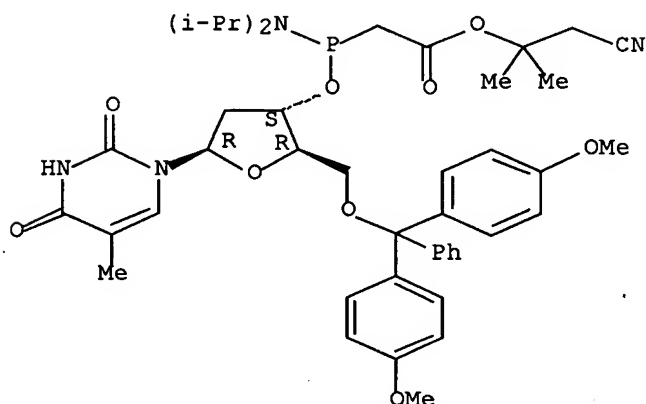
Absolute stereochemistry.



RN 411234-18-9 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 3'-[P-[2-(2-cyano-1,1-dimethylethoxy)-2-oxoethyl]-N,N-bis(1-methylethyl)phosphonamidite] (9CI)  
(CA INDEX NAME)

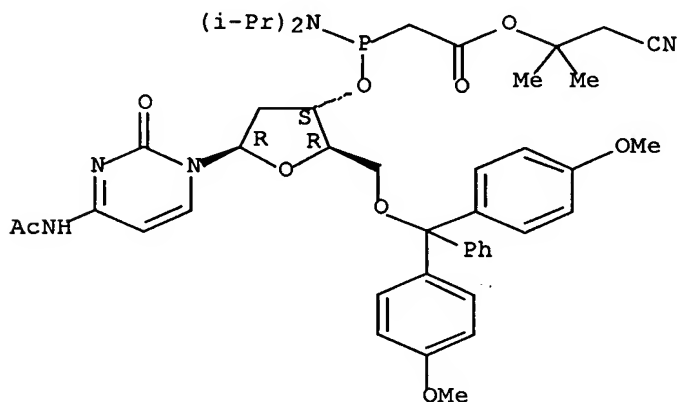
Absolute stereochemistry.



RN 411234-22-5 HCAPLUS

CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-, 3'-[P-[2-(2-cyano-1,1-dimethylethoxy)-2-oxoethyl]-N,N-bis(1-methylethyl)phosphonamidite] (9CI) (CA INDEX NAME)

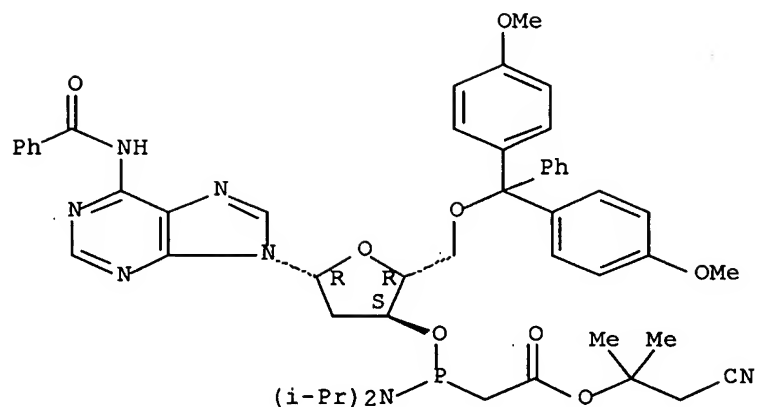
Absolute stereochemistry.



RN 411234-24-7 HCAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-, 3'-[P-[2-(2-cyano-1,1-dimethylethoxy)-2-oxoethyl]-N,N-bis(1-methylethyl)phosphonamidite] (9CI) (CA INDEX NAME)

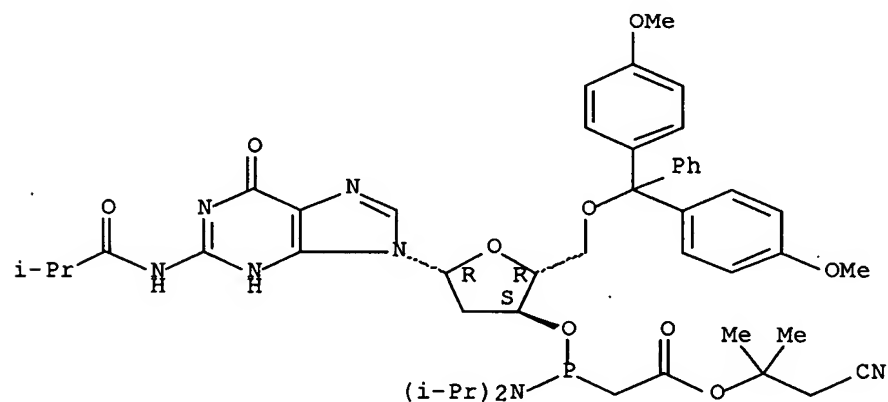
Absolute stereochemistry.



RN 411234-26-9 HCAPLUS

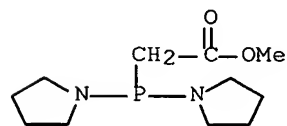
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-N-(2-methyl-1-oxopropyl)-, 3'-[P-[2-(2-cyano-1,1-dimethylethoxy)-2-oxoethyl]-N,N-bis(1-methylethyl)phosphonamidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



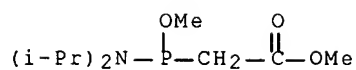
RN 499992-04-0 HCAPLUS

CN Acetic acid, (di-1-pyrrolidinylphosphino)-, methyl ester (9CI) (CA INDEX NAME)



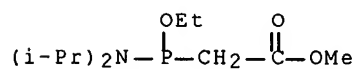
RN 499992-05-1 HCAPLUS

CN Acetic acid, [[bis(1-methylethyl)amino]methoxyphosphino]-, methyl ester (9CI) (CA INDEX NAME)



RN 499992-06-2 HCAPLUS

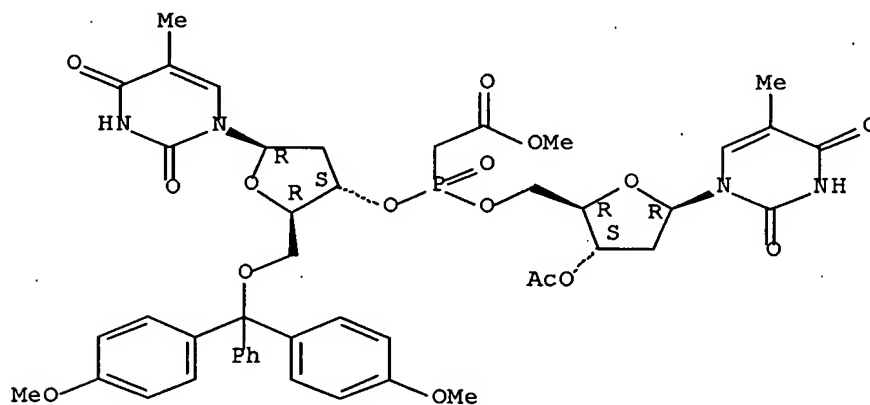
CN Acetic acid, [[bis(1-methylethyl)amino]ethoxyphosphino]-, methyl ester  
(9CI) (CA INDEX NAME)



RN 499992-11-9 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-deoxy-P-(2-methoxy-2-oxoethyl)thymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

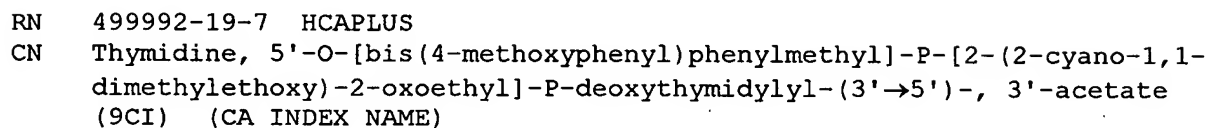
Absolute stereochemistry.



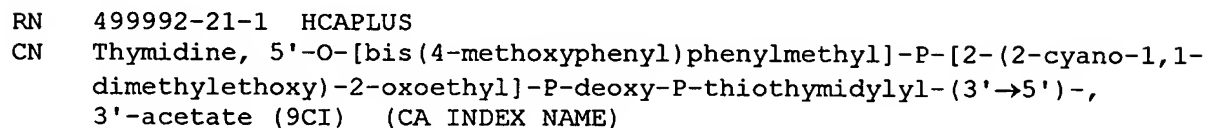
RN 499992-13-1 HCAPLUS

CN Thymidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-P-deoxy-P-(2-methoxy-2-oxoethyl)-P-thiothymidylyl-(3'→5')-, 3'-acetate (9CI) (CA INDEX NAME)

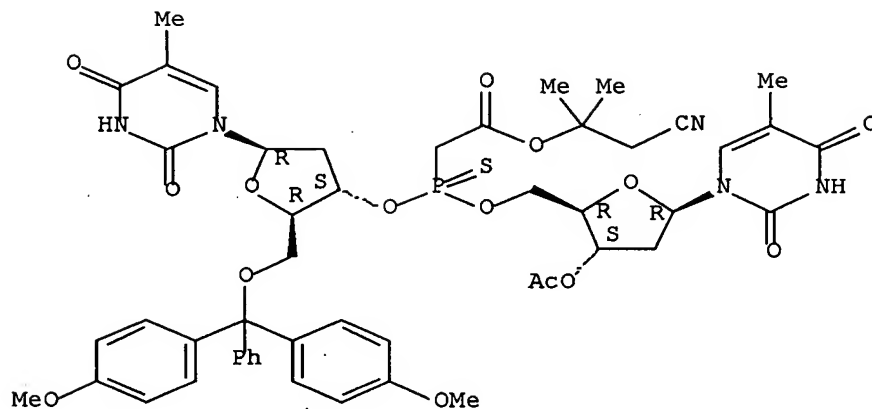
Absolute stereochemistry.



Absolute stereochemistry.



Absolute stereochemistry.



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:194189 HCAPLUS Full-text

DOCUMENT NUMBER: 135:61423

TITLE: . Synthesis of achiral, but unsymmetric, seven-membered rhodium(I)-chelates for hydrogenation in the chiral environment of alkyl polyglucoside micelles

AUTHOR(S): Fehring, V.; Kadyrov, R.; Ludwig, M.; Holz, J.; Haage, K.; Selke, R.

CORPORATE SOURCE: Institut für Organische Katalyseforschung an der Universität Rostock, Rostock, D18055, Germany

SOURCE: Journal of Organometallic Chemistry (2001), 621(1-2), 120-129

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:61423

AB Chiral Rh(I) chelates containing a seven-membered ring are known active catalysts for the asym. hydrogenation of amino acid precursors. A high conformational flexibility allows their enantioselectivity to be strongly influenced by modifiers. Now the authors show the nature of the counterions to have a large influence in apolar solvents. In addition, the presence of micelle forming alkyl polyglycosides as amphiphiles causes a remarkable increase in the enantiomeric excess (% ee). However, on achiral catalysts this enantioselectivity inducing effect scarcely exceeds the standard deviation for the gas chromatog. determination of the enantiomeric ratio. This is also true for the application of unsym. P,P'-ligands such as 3-phosphinopropyl-phosphinites or butane-1,4-diyl-bis(phosphines) carrying different P'-aryl groups, for which synthetic routes are given.

CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22, 34, 67

IT Counterions

(effect of counterions on enantioselectivity of unsym. cationic rhodium bisphosphine chelates as asym. hydrogenation catalysts in alkyl polyglycoside micelles)

IT 7526-70-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(addition of borane and tosylation of)

IT 151-21-3, Sodium dodecyl sulfate, reactions

RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (anion exchange with cationic rhodium chelate; asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)

IT 125761-61-7  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (anion exchange with sodium dodecyl sulfate; asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)

IT 35356-70-8, Methyl 2-acetamidoacrylate 55065-02-6, (Z)-2-Acetamidocinnamic acid 60676-51-9, Methyl (Z)-2-acetamidocinnamate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)

IT 1079-66-9, Chloro(diphenyl)phosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (phosphinylation by, of ethylene glycol and protected alcs.)

IT 343952-70-5  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (preparation and asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)

IT 343952-44-3P 343952-48-7P 343952-52-3P 343952-59-0P 343952-60-3P 343952-61-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and chelation with (acetylacetonato)(cyclooctadiene)rhodium)

IT 343952-43-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and deprotection of)

IT 2360-09-0P 131326-32-4P 343952-47-6P 343952-55-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and phosphinylation of)

IT 15754-51-5P, Bis(p-methoxyphenyl)phosphine oxide 15979-14-3P 142421-57-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reduction with lithium aluminum hydride)

IT 504-63-2, 1,3-Propanediol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (protection of, with dihydropyran and subsequent tosylation of)

IT 7526-70-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (addition of borane and tosylation of)

RN 7526-70-7 HCAPLUS

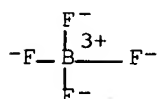
CN 1-Butanol, 4-(diphenylphosphino)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO—(CH<sub>2</sub>)<sub>4</sub>—PPh<sub>2</sub>

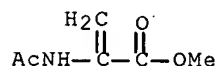
IT 125761-61-7  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (anion exchange with sodium dodecyl sulfate; asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)  
 RN 125761-61-7 HCAPLUS  
 CN Rhodium(1+), [(1,2,5,6-η)-1,5-cyclooctadiene][phenyl β-D-glucopyranoside 2,3-bis(diphenylphosphinite-κP)]-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 125669-89-8  
 CMF C44 H46 O6 P2 Rh  
 CCI CCS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2  
 CRN 14874-70-5  
 CMF B F4  
 CCI CCS

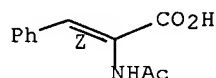


IT 35356-70-8, Methyl 2-acetamidoacrylate 55065-02-6, (Z)-2-Acetamidocinnamic acid 60676-51-9, Methyl (Z)-2-acetamidocinnamate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)  
 RN 35356-70-8 HCAPLUS  
 CN 2-Propenoic acid, 2-(acetylamino)-, methyl ester (CA INDEX NAME)



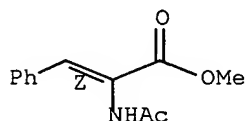
RN 55065-02-6 HCAPLUS  
 CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.

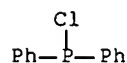


RN 60676-51-9 HCAPLUS  
 CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, methyl ester, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.



IT 1079-66-9, Chloro(diphenyl)phosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (phosphinylation by, of ethylene glycol and protected alcs.)  
 RN 1079-66-9 HCAPLUS  
 CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



IT 343952-70-5  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (preparation and asym. hydrogenation of amino acid precursors in chiral environment of alkyl polyglycoside micelles in presence of rhodium chelates)  
 RN 343952-70-5 HCAPLUS  
 CN Rhodium(1+), [(1,2,5,6-η)-1,5-cyclooctadiene][phenyl β-D-glucopyranoside 2,3-bis(diphenylphosphinite-κP)]-, dodecyl sulfate (9CI) (CA INDEX NAME)

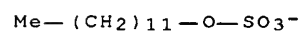
CM 1

CRN 125669-89-8  
 CMF C44 H46 O6 P2 Rh  
 CCI CCS

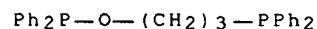
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

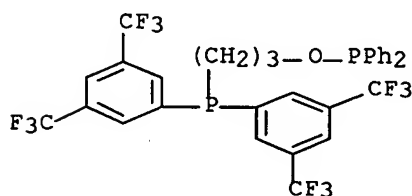
CRN 557-47-1  
 CMF C12 H25 O4 S



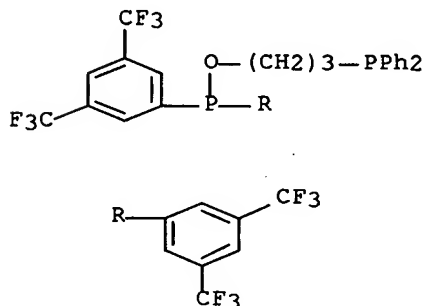
IT 343952-44-3P 343952-48-7P 343952-52-3P  
 343952-59-0P 343952-60-3P 343952-61-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and chelation with (acetylacetonato)(cyclooctadiene)rhodium)  
 RN 343952-44-3 HCAPLUS  
 CN Phosphinous acid, diphenyl-, 3-(diphenylphosphino)propyl ester (9CI) (CA  
 INDEX NAME)



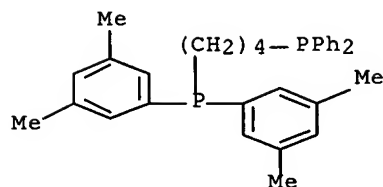
RN 343952-48-7 HCAPLUS  
 CN Phosphinous acid, diphenyl-, 3-[bis[3,5-bis(trifluoromethyl)phenyl]phosphi  
 no]propyl ester (9CI) (CA INDEX NAME)



RN 343952-52-3 HCAPLUS  
 CN Phosphinous acid, bis[3,5-bis(trifluoromethyl)phenyl]-,  
 3-(diphenylphosphino)propyl ester (9CI) (CA INDEX NAME)

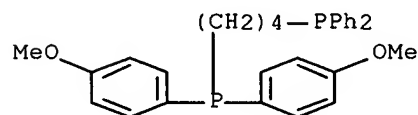


RN 343952-59-0 HCAPLUS  
 CN Phosphine, bis(3,5-dimethylphenyl)[4-(diphenylphosphino)butyl]- (9CI) (CA  
 INDEX NAME)



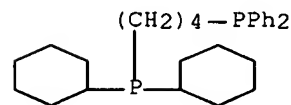
RN 343952-60-3 HCAPLUS

CN Phosphine, [4-[bis(4-methoxyphenyl)phosphino]butyl]diphenyl- (9CI) (CA INDEX NAME)



RN 343952-61-4 HCAPLUS

CN Phosphine, dicyclohexyl[4-(diphenylphosphino)butyl]- (CA INDEX NAME)

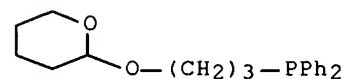


IT 343952-43-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and deprotection of)

RN 343952-43-2 HCAPLUS

CN Phosphine, diphenyl[3-[(tetrahydro-2H-pyran-2-yl)oxy]propyl]- (CA INDEX NAME)

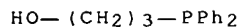


IT 2360-09-0P 343952-47-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and phosphinylation of)

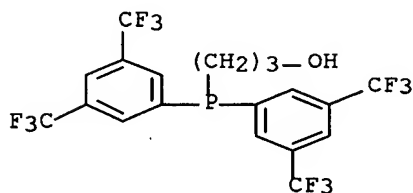
RN 2360-09-0 HCAPLUS

CN 1-Propanol, 3-(diphenylphosphino)- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 343952-47-6 HCAPLUS

CN 1-Propanol, 3-[bis[3,5-bis(trifluoromethyl)phenyl]phosphino]- (CA INDEX NAME)



IT 15754-51-5P, Bis(p-methoxyphenyl)phosphine oxide

15979-14-3P 142421-57-6P

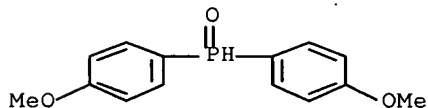
RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction with lithium aluminum hydride)

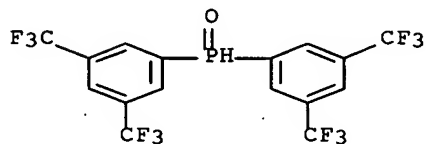
RN 15754-51-5 HCAPLUS

CN Phosphine oxide, bis(4-methoxyphenyl)- (CA INDEX NAME)



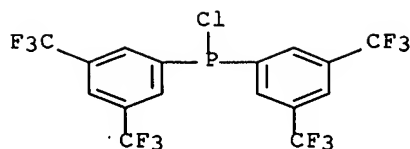
RN 15979-14-3 HCAPLUS

CN Phosphine oxide, bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

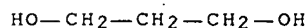


RN 142421-57-6 HCAPLUS

CN Phosphinous chloride, P,P-bis[3,5-bis(trifluoromethyl)phenyl]- (CA INDEX NAME)



IT 504-63-2, 1,3-Propanediol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (protection of, with dihydropyran and subsequent tosylation of)  
 RN 504-63-2 HCAPLUS  
 CN 1,3-Propanediol (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:634748 HCAPLUS Full-text

DOCUMENT NUMBER: 132:23056

TITLE: Chiral Phosphito-Thioether Complexes of Palladium(0).  
 Comments on the Pd, Rh, and Ir Regio- and  
 Enantioselective Allylic Alkylations of  
 PhCH:CHCH(OAc)R, R = H, Me, Et

AUTHOR(S): Selvakumar, Kumaravel; Valentini, Massimiliano;  
 Pregosin, Paul S.; Albinati, Alberto

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zentrum,  
 Zurich, 8092, Switz.

SOURCE: Organometallics (1999), 18(22), 4591-4597  
 CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 132:23056

AB The new chiral auxiliary (R)-2-ethylthio-1-(phenylethyl)-(R)-binaphthyl phosphite, 1, and three stable Pd(0) olefin complexes containing this chelate, 2-4, were synthesized. The structure of the maleic anhydride complex 3 was determined by x-ray diffraction methods. Solution details for 2-4 and aspects of their dynamics were elucidated via 2-dimensional NMR spectroscopy. The fumaronitrile complex 2 exchanges intramolecularly, whereas the maleic anhydride and cyclopentenedione derivs., 3 and 4, resp., exchange intermolecularly. Ligand 1 was used as auxiliary in the Pd, Rh, and Ir regio- and enantioselective allylic alkylation reactions of PhCH:CHCH(OAc)R, R = H, Me, Et, with the anion of di-Me malonate. Modest to good selectivities are reported.

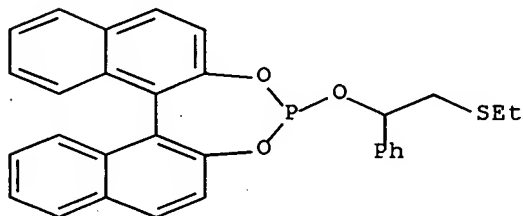
CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 23, 67, 75

IT 251967-57-4P

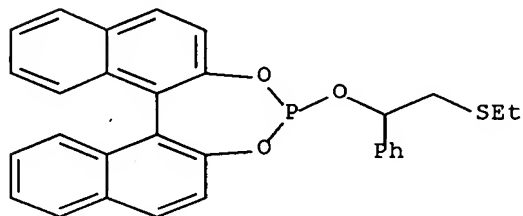
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(regio- and enantioselective allylations of olefins catalyzed by chiral

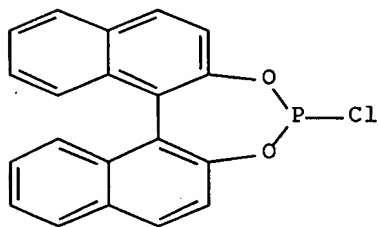
- phosphite thioether palladium complexes)
- IT 251967-58-5P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (regio- and enantioselective allylations of olefins catalyzed by chiral phosphite thioether palladium complexes)
- IT 103-54-8, Cinnamyl acetate 108-31-6, 2,5-Furandione, reactions  
 764-42-1, Fumaronitrile 930-60-9, 1-Cyclopentene-3,5-dione 12131-44-1  
 18424-76-5, Sodium dimethyl malonate 51364-51-3,  
 Tris(dibenzylideneacetone)dipalladium 86668-34-0, 1-Phenyl-3-acetoxy-1-butene 94421-30-4, 1-Phenyl-3-acetoxy-1-pentene 137156-22-0,  
 (S)-(1,1'-Binaphthalene-2,2'-dioxy)chlorophosphine 155613-52-8,  
 (R)-(1,1'-Binaphthalene-2,2'-dioxy)chlorophosphine 165876-46-0  
 197585-54-9, (R)-2-Ethylthio-1-phenylethanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (regio- and enantioselective allylations of olefins catalyzed by chiral phosphite thioether palladium complexes)
- IT 251967-57-4P  
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (regio- and enantioselective allylations of olefins catalyzed by chiral phosphite thioether palladium complexes)
- RN 251967-57-4 HCAPLUS
- CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-[(1R)-2-(ethylthio)-1-phenylethoxy]-, (11bR)- (9CI) (CA INDEX NAME)



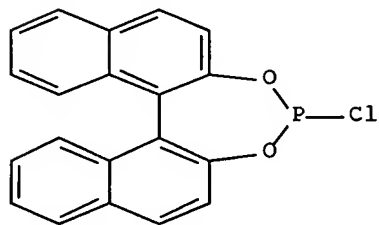
- IT 251967-58-5P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (regio- and enantioselective allylations of olefins catalyzed by chiral phosphite thioether palladium complexes)
- RN 251967-58-5 HCAPLUS
- CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-[(1R)-2-(ethylthio)-1-phenylethoxy]-, (11bS)- (9CI) (CA INDEX NAME)



IT 137156-22-0, (S)-(1,1'-Binaphthalene-2,2'-dioxy)chlorophosphine  
 155613-52-8, (R)-(1,1'-Binaphthalene-2,2'-dioxy)chlorophosphine  
 197585-54-9, (R)-2-Ethylthio-1-phenylethanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (regio- and enantioselective allylations of olefins catalyzed by chiral  
 phosphite thioether palladium complexes)  
 RN 137156-22-0 HCAPLUS  
 CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-chloro-, (11bS)- (CA  
 INDEX NAME)

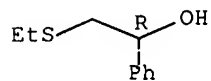


RN 155613-52-8 HCAPLUS  
 CN Dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 4-chloro-, (11bR)- (CA  
 INDEX NAME)



RN 197585-54-9 HCAPLUS  
 CN Benzenemethanol,  $\alpha$ -[(ethylthio)methyl]-, ( $\alpha$ R)- (9CI) (CA  
 INDEX NAME)

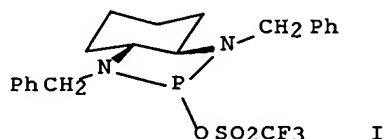
Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

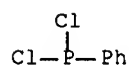
L47 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:626725 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:343528  
 TITLE: Chiral phosphorus(III) triflates. On the nature of the phosphorus-oxygen interaction  
 AUTHOR(S): Jones, Victoria A.; Sriprang, Sarin; Thornton-Pett, Mark; Kee, Terence P.  
 CORPORATE SOURCE: School of Chemistry, University of Leeds, Leeds, LS2 9JT, UK  
 SOURCE: Journal of Organometallic Chemistry (1998), 567(1-2), 199-218  
 CODEN: JORCAI; ISSN: 0022-328X  
 PUBLISHER: Elsevier Science S.A.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



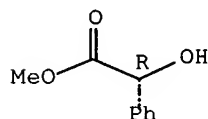
AB Reaction of chiral phosphorodiamidites with trimethylsilyl triflate affords chiral phosphorus(III) triflate species, such as 1-trifluoromethylsulfonato-2,9-dibenzyl-2,9-diaza-1-phospha[4.0.3]bicyclononane (4; covalent form shown as I), which was examined by a combination of solution and solid state anal. techniques. Arguably the most important feature of this mol. is the nature of the interaction between P and triflate O atoms. Single crystal x-ray diffraction anal. reveals that the P atom interacts principally with two O atoms from two different triflate groups in the solid state, implying overall four-coordination at P. At distances of 2.841 and 2.755 Å, these interactions are well within the van der Waals distance for a P-O interaction (.apprx.3.35 Å) but are nevertheless over 1 Å longer than expected for a single [P-O] covalent bond. Studies in solution via a combination of  $^{31}\text{P}$ ,  $^{19}\text{F}$ ,  $^{13}\text{C}$ , variable concentration, variable temperature NMR spectroscopy and solution conductivity provide support for a P-O interaction which is intermediate between 'ionic' (two-coordinate P) and 'covalent' (three-coordinate P) and which possesses dynamic character in solution. Indeed, it proved possible to calculate a relative equilibrium constant between 'ionic' and 'covalent' forms of 4 using empirical NMR data ( $^{13}\text{C}$  and  $^{19}\text{F}$ ;  $\text{CH}_2\text{Cl}_2$  solvent; 300 K). These calcns. return an equilibrium constant of .apprx.3 (2.8 using  $^{13}\text{C}$ -NMR data and 3.3 using  $^{19}\text{F}$ -NMR data) in favor of the ionic form, a result commensurate with those suggested from variable temperature  $^{19}\text{F}$ -NMR and solution conductivity studies. Indeed, that the triflate group in 4 is capable of being displaced readily was demonstrated by reaction with two-electron N, O and P donor mols. The authors found  $^{13}\text{C}(1\text{H})$ -NMR spectroscopy to be an extremely valuable probe of the ionic character of the triflate group in such systems providing a quant. measure of the relative strength of interaction (relative basicity Br) between donor mol. and P atom of 4; the stronger the interaction, the more ionic the character of the triflate group and the lower the value of Br. Indeed, Br values for various ligands correlate well with steric and electronic properties of the latter and  $^{31}\text{P}$ -NMR resonances of the adducts themselves. As expected, the relative basicity of a given ligand correlates to the equilibrium consts. K for adduct formation, which range from 39 M $^{-1}$  for

- the weakest binding ligand studied (1,4-dioxane) to  $5.4 \times 10^4 \text{ M}^{-1}$  for the strongest binding ligand (4-dimethylaminopyridine).
- CC 29-7 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 75
- IT Exchange reaction  
(of triflate with bicyclic phosphonium triflate)
- IT 644-97-3, Phenylphosphonous dichloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclization with bis(benzylamino)cyclohexane)
- IT 20698-91-3, (R)-Methyl mandelate 21210-43-5, (S)-Methyl mandelate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(derivatization of chiral bicyclic phosphorodiamidous chloride by)
- IT 215181-40-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(formation and ionization equilibrium with phosphonium ion)
- IT 138421-25-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reactions with methanol and trimethylsilyl triflate)
- IT 147127-11-5P, (1S,2S)-1,2-Bis((4-methoxybenzylidene)amino)cyclohexane  
166941-20-4P, trans-1,2-Bis((4-bromobenzylidene)amino)cyclohexane  
194346-02-6P 194346-06-0P 194721-03-4P,  
trans-1,2-Bis((4-methoxybenzyl)amino)cyclohexane 215181-16-1P  
215181-24-1P, trans-1,2-Bis((4-(dimethylamino)benzyl)amino)cyclohexane  
215181-26-3P 215362-18-8P 215362-22-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 644-97-3, Phenylphosphonous dichloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclization with bis(benzylamino)cyclohexane)
- RN 644-97-3 HCAPLUS
- CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)



- IT 20698-91-3, (R)-Methyl mandelate 21210-43-5, (S)-Methyl mandelate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(derivatization of chiral bicyclic phosphorodiamidous chloride by)
- RN 20698-91-3 HCAPLUS
- CN Benzeneacetic acid,  $\alpha$ -hydroxy-, methyl ester, ( $\alpha$ R)- (CA INDEX NAME)

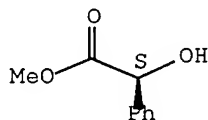
Absolute stereochemistry. Rotation (-).



RN 21210-43-5 HCAPLUS

CN Benzeneacetic acid,  $\alpha$ -hydroxy-, methyl ester, ( $\alpha$ S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



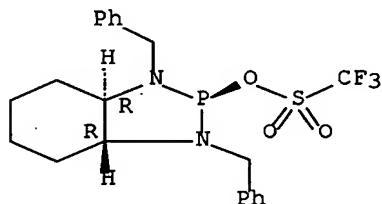
IT 215181-40-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(formation and ionization equilibrium with phosphonium ion)

RN 215181-40-1 HCAPLUS

CN 1H-1,3,2-Benzodiazaphosphole, octahydro-1,3-bis(phenylmethyl)-2-[[trifluoromethyl)sulfonyl]oxy]-, (3aR,7aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



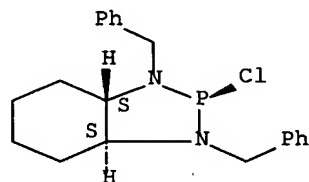
IT 138421-25-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reactions with methanol and trimethylsilyl triflate)

RN 138421-25-7 HCAPLUS

CN 1H-1,3,2-Benzodiazaphosphole, 2-chlorooctahydro-1,3-bis(phenylmethyl)-, (3aR,7aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT 194346-02-6P 194346-06-0P 215181-16-1P

215181-26-3P 215362-18-8P 215362-22-4P

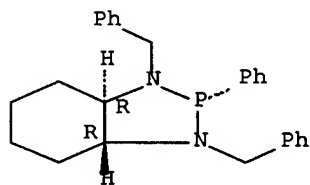
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 194346-02-6 HCAPLUS

CN 1H-1,3,2-Benzodiazaphosphole, octahydro-2-phenyl-1,3-bis(phenylmethyl)-,  
(2 $\alpha$ ,3 $\alpha$ ,7 $\alpha$ ) - (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 194346-06-0 HCAPLUS

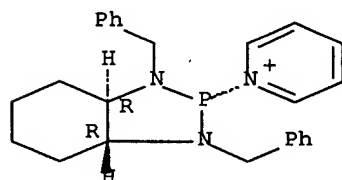
CN Pyridinium, 1-[(3 $\alpha$ R,7 $\alpha$ R)-octahydro-1,3-bis(phenylmethyl)-2H-1,3,2-benzodiazaphosphol-2-yl]-, rel-, salt with trifluoromethanesulfonic acid  
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 194346-05-9

CMF C25 H29 N3 P

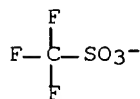
Relative stereochemistry.



CM 2

CRN 37181-39-8

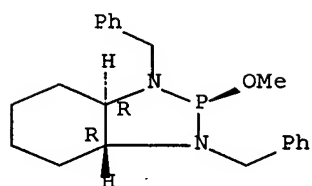
CMF C F3 O3 S



RN 215181-16-1 HCAPLUS

CN 1H-1,3,2-Benzodiazaphosphole, octahydro-2-methoxy-1,3-bis(phenylmethyl)-,  
(3 $\alpha$ R,7 $\alpha$ R)-rel- (9CI) (CA INDEX NAME)

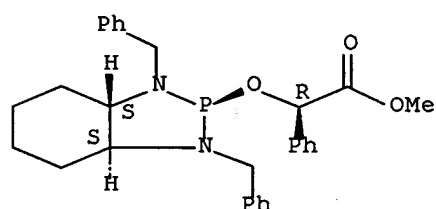
Relative stereochemistry.



RN 215181-26-3 HCAPLUS

CN Benzeneacetic acid,  $\alpha$ -[[[(3aS,7aS)-octahydro-1,3-bis(phenylmethyl)-2H-1,3,2-benzodiazaphosphol-2-yl]oxy]-, methyl ester, ( $\alpha$ R)- (9CI) (CA INDEX NAME)

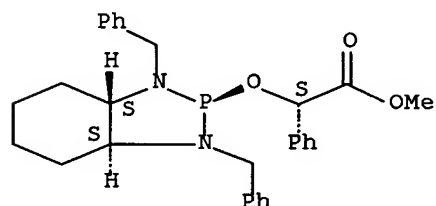
Absolute stereochemistry.



RN 215362-18-8 HCAPLUS

CN Benzeneacetic acid,  $\alpha$ -[[[(3aS,7aS)-octahydro-1,3-bis(phenylmethyl)-2H-1,3,2-benzodiazaphosphol-2-yl]oxy]-, methyl ester, ( $\alpha$ S)- (9CI) (CA INDEX NAME)

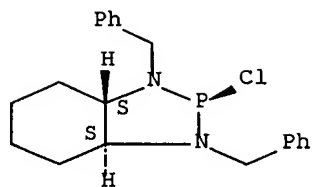
Absolute stereochemistry.



RN 215362-22-4 HCAPLUS

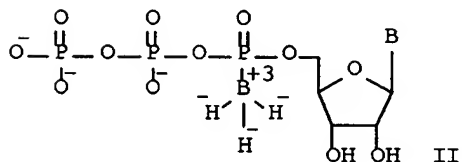
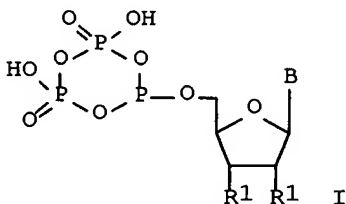
CN 1H-1,3,2-Benzodiazaphosphole, 2-chlorooctahydro-1,3-bis(phenylmethyl)-, (3aS,7aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1998:479728 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:122829  
 TITLE: Synthesis and Separation of Diastereomers of Ribonucleoside 5'-( $\alpha$ -P-Borano)triphosphates  
 AUTHOR(S): He, Kaizhang; Hasan, Ahmad; Krzyzanowska, Bozena; Shaw, Barbara Ramsay  
 CORPORATE SOURCE: Department of Chemistry P. M. Gross Chemical Laboratory, Duke University, Durham, NC, 27708, USA  
 SOURCE: Journal of Organic Chemistry (1998), 63(17), 5769-5773  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 129:122829  
 GI

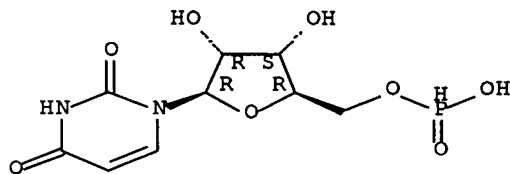


AB Nucleoside boranophosphates, in which one of the phosphate oxygens is replaced by a borane group, are isoionic and isoelectronic analogs of naturally occurring nucleotides. Boranophosphates also are biochem. important congeners of phosphorothioates and methylphosphonates. We have developed a convenient one-pot method to synthesize the set of ribonucleoside (adenine, uracil, guanine, and cytosine) 5'-( $\alpha$ -P-borano)triphosphates. Phosphitylation of the 2',3'-protected ribonucleoside with 2-chloro-4H-1,3,2-benzodioxaphosphorin- 4-

one gives the 5'-phosphite intermediate, which undergoes in situ substitution in the presence of pyrophosphate to give the cyclic intermediate, P2,P3-dioxo-P1-ribonucleosidylcyclotriphosphate I (B = adenine, uracil, guanine, N-benzoylcytosine; R1 = same OBz, or OAc). Immediate oxidation of the cyclic intermediate with amine-borane complex results in ribonucleoside 5'-( $\alpha$ -P-borano)cyclotriphosphate. Subsequent reaction of 5'-( $\alpha$ -P-borano)cyclotriphosphate with water followed by ammonium hydroxide yields the crude product as a diastereomeric mixture of ribonucleoside 5'-( $\alpha$ -P-borano)triphosphate II (B = adenine, uracil, guanine, cytosine). Pure compound II is isolated in 30-45% overall yield using ion-exchange chromatog. The separation of two diastereomers of ribonucleoside 5'-( $\alpha$ -P-borano)triphosphate II is achieved by reverse phase HPLC.

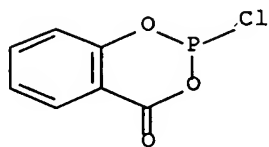
- CC 33-9 (Carbohydrates)
- IT 58-97-9P, 5'-Uridylic acid, preparation 58-98-0P, Uridine  
5'-(trihydrogen diphosphate), preparation 16334-27-3P  
RL: BYP (Byproduct); PREP (Preparation)  
(synthesis and separation of diastereomers of ribonucleoside  
5'-( $\alpha$ -P-borano)triphosphates)
- IT 5381-99-7 29886-19-9 42167-65-7  
50408-20-3 88996-23-0, Borane-N,N-diisopropylethylamine  
99519-17-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis and separation of diastereomers of ribonucleoside  
5'-( $\alpha$ -P-borano)triphosphates)
- IT 135942-87-9P 207448-92-8P 207448-93-9P  
207448-94-0P 207448-96-2P 207448-98-4P  
207449-00-1P 207449-02-3P 207449-03-4P  
207449-04-5P 207449-05-6P 207449-06-7P  
207449-07-8P 207449-94-3P  
RL: RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(synthesis and separation of diastereomers of ribonucleoside  
5'-( $\alpha$ -P-borano)triphosphates)
- IT 16334-27-3P  
RL: BYP (Byproduct); PREP (Preparation)  
(synthesis and separation of diastereomers of ribonucleoside  
5'-( $\alpha$ -P-borano)triphosphates)
- RN 16334-27-3 HCAPLUS
- CN Uridine, 5'-(hydrogen phosphonate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



- IT 5381-99-7 29886-19-9 42167-65-7  
50408-20-3 99519-17-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis and separation of diastereomers of ribonucleoside  
5'-( $\alpha$ -P-borano)triphosphates)
- RN 5381-99-7 HCAPLUS

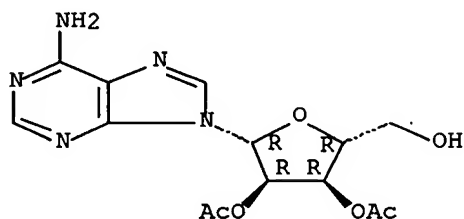
CN 4H-1,3,2-Benzodioxaphosphorin-4-one, 2-chloro- (CA INDEX NAME)



RN 29886-19-9 HCAPLUS

CN Adenosine, 2',3'-diacetate (CA INDEX NAME)

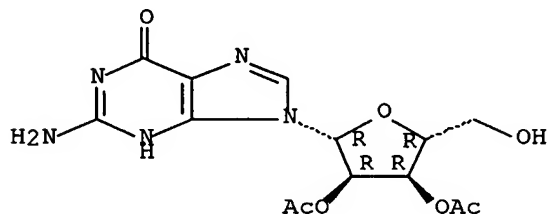
Absolute stereochemistry. .Rotation (-).



RN 42167-65-7 HCAPLUS

CN Guanosine, 2',3'-diacetate (7CI, 9CI) (CA INDEX NAME)

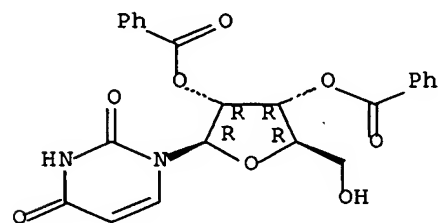
Absolute stereochemistry.



RN 50408-20-3 HCAPLUS

CN Uridine, 2',3'-dibenzoate (CA INDEX NAME)

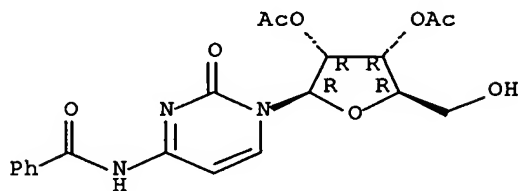
Absolute stereochemistry.



RN 99519-17-2 HCAPLUS

CN Cytidine, N-benzoyl-, 2',3'-diacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 135942-87-9P 207448-92-8P 207448-93-9P

207448-94-0P 207448-96-2P 207448-98-4P

207449-00-1P 207449-02-3P 207449-03-4P

207449-04-5P 207449-05-6P 207449-06-7P

207449-07-8P 207449-94-3P

RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

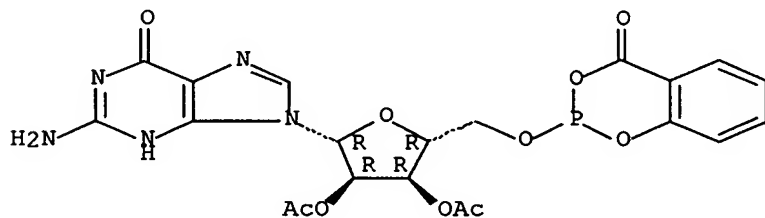
(synthesis and separation of diastereomers of ribonucleoside

5'-( $\alpha$ -P-borano)triphosphates)

RN 135942-87-9 HCAPLUS

CN Guanosine, 5'-O-(4-oxo-4H-1,3,2-benzodioxaphosphorin-2-yl)-, 2',3'-diacetate (9CI) (CA INDEX NAME)

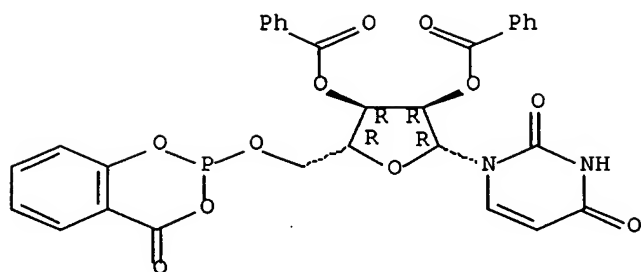
Absolute stereochemistry.



RN 207448-92-8 HCAPLUS

CN Uridine, 5'-O-(4-oxo-4H-1,3,2-benzodioxaphosphorin-2-yl)-, 2',3'-dibenzoate (9CI) (CA INDEX NAME)

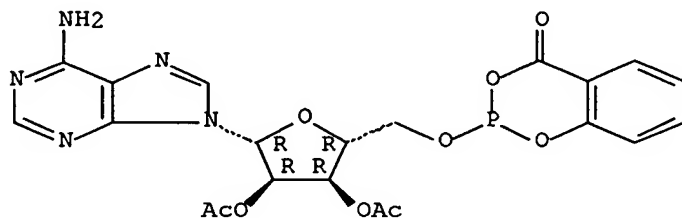
Absolute stereochemistry.



RN 207448-93-9 HCAPLUS

CN Adenosine, 5'-O-(4-oxo-4H-1,3,2-benzodioxaphosphorin-2-yl)-,  
2',3'-diacetate (9CI) (CA INDEX NAME)

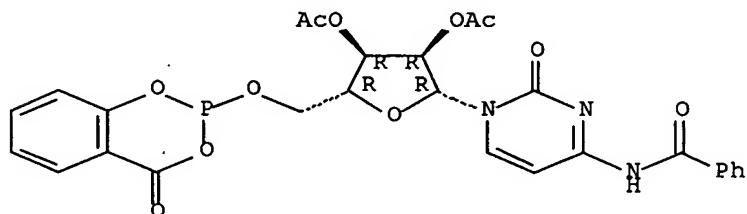
Absolute stereochemistry.



RN 207448-94-0 HCAPLUS

CN Cytidine, N-benzoyl-5'-O-(4-oxo-4H-1,3,2-benzodioxaphosphorin-2-yl)-,  
2',3'-diacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 207448-96-2 HCAPLUS

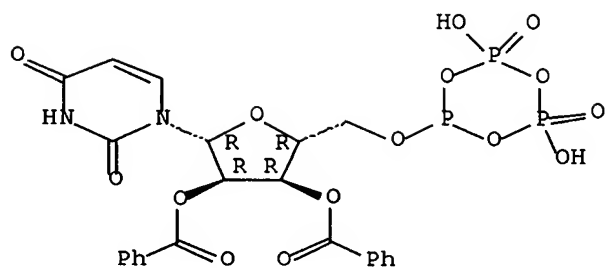
CN Uridine, 5'-O-(4,6-dihydroxy-4,6-dioxido-1,3,5,2,4,6-trioxatriphosphorinan-  
2-yl)-, 2',3'-dibenzoate, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI)  
(CA INDEX NAME)

CM 1

CRN 207448-95-1

CMF C23 H21 N2 O15 P3

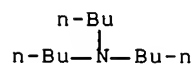
Absolute stereochemistry.



CM 2

CRN 102-82-9

CMF C12 H27 N



RN 207448-98-4 HCAPLUS

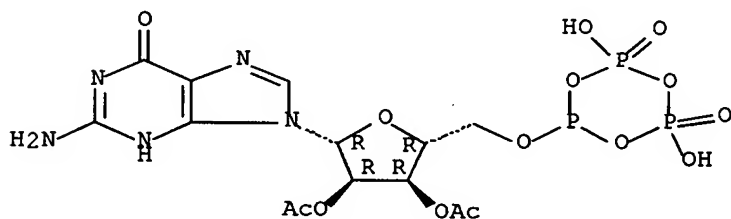
CN Guanosine, 5'-O-(4,6-dihydroxy-4,6-dioxido-1,3,5,2,4,6-trioxatriphosphorinan-2-yl)-, 2',3'-diacetate, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 207448-97-3

CMF C14 H18 N5 O14 P3

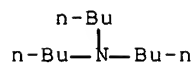
Absolute stereochemistry.



CM 2

CRN 102-82-9

CMF C12 H27 N



RN 207449-00-1 HCAPLUS

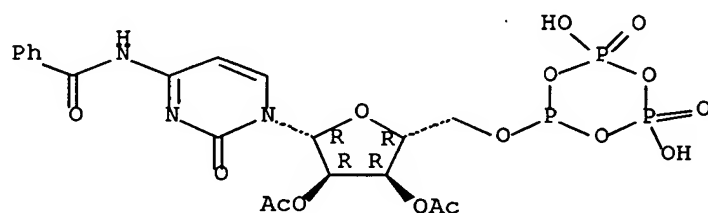
CN Cytidine, N-benzoyl-5'-O-(4,6-dihydroxy-4,6-dioxido-1,3,5,2,4,6-trioxatriphosphorinan-2-yl)-, 2',3'-diacetate, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 207448-99-5

CMF C20 H22 N3 O15 P3

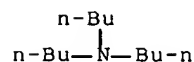
Absolute stereochemistry.



CM 2

CRN 102-82-9

CMF C12 H27 N



RN 207449-02-3 HCAPLUS

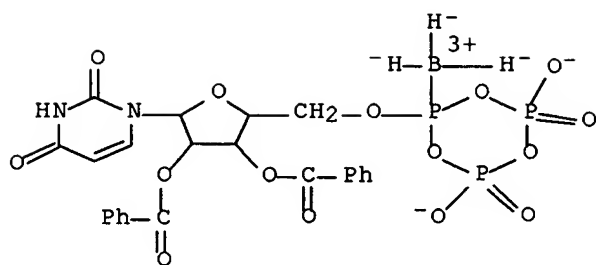
CN Borate(2-), [5'-O-(4,6-dihydroxy-4,6-dioxido-1,3,5,2,4,6-trioxatriphosphorinan-2-yl-κP2)uridine 2',3'-dibenzoato(2-)]trihydro-, (T-4)-, dihydrogen, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 207449-01-2

CMF C23 H22 B N2 O15 P3 . 2 H

CCI CCS

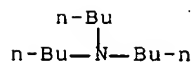


● 2 H<sup>+</sup>

CM 2

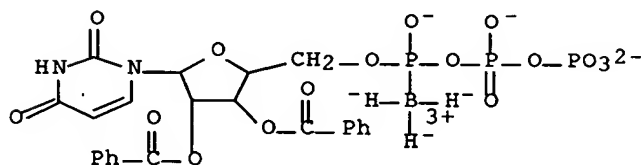
CRN 102-82-9

CMF C12 H27 N



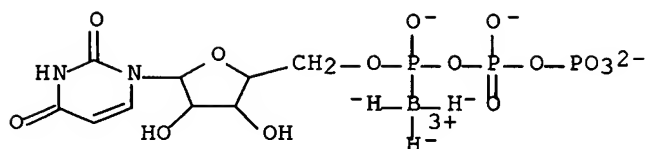
RN 207449-03-4 HCAPLUS

CN Borate(4-), trihydro[uridine 2',3'-dibenzoate 5'→P-[triphosphato(III,V,V)-κP](4-)]-, (T-4)- (9CI) (CA INDEX NAME)



RN 207449-04-5 HCAPLUS

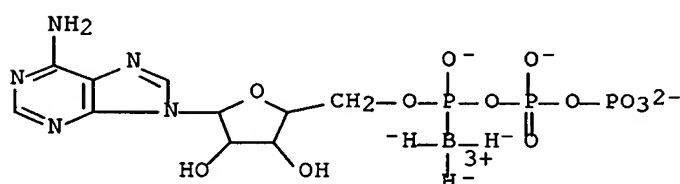
CN Borate(4-), trihydro[uridine 5'→P-[triphosphato(III,V,V)-κP](4-)]-, tetraammonium, (T-4)- (9CI) (CA INDEX NAME)



●4 NH<sub>4</sub><sup>+</sup>

RN 207449-05-6 HCAPLUS

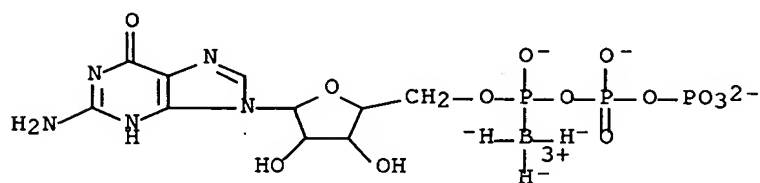
CN Borate(4-), [adenosine 5'→P-[triphosphato(III,V,V)-κP](4-)]trihydro-, tetraammonium, (T-4)- (9CI) (CA INDEX NAME)



●4 NH<sub>4</sub><sup>+</sup>

RN 207449-06-7 HCAPLUS

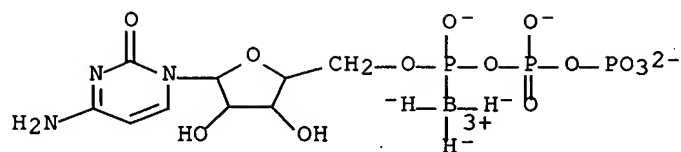
CN Borate(4-), [guanosine 5'→P-[triphosphato(III,V,V)-κP](4-)]trihydro-, tetraammonium, (T-4)- (9CI) (CA INDEX NAME)



●4 NH<sub>4</sub><sup>+</sup>

RN 207449-07-8 HCAPLUS

CN Borate(4-), [cytidine 5'→P-[triphosphato(III,V,V)-κP](4-)]trihydro-, tetraammonium, (T-4)- (9CI) (CA INDEX NAME)



●4 NH<sub>4</sub><sup>+</sup>

RN 207449-94-3 HCAPLUS

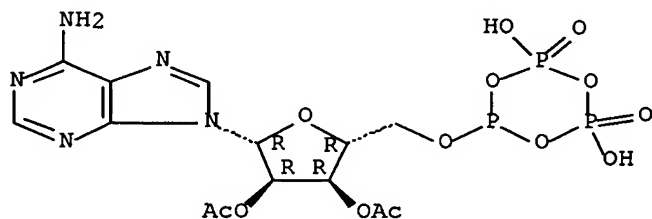
CN Adenosine, 5'-O-(4,6-dihydroxy-4,6-dioxido-1,3,5,2,4,6-trioxatriphosphorinan-2-yl)-, 2',3'-diacetate, compd. with N,N-dibutyl-1-butanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 207449-93-2

CMF C14 H18 N5 O13 P3

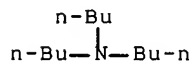
Absolute stereochemistry.



CM 2

CRN 102-82-9

CMF C12 H27 N



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:299687 HCAPLUS Full-text

DOCUMENT NUMBER: 126:277597

TITLE: Preparation of phosphonic acid monoalkyl esters

INVENTOR(S): Kleiner, Hans-Jerg

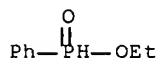
PATENT ASSIGNEE(S): Hoechst A.-G., Germany

SOURCE: Ger., 4 pp.

CODEN: GWXXAW

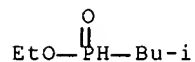
DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19604195	C1	19970417	DE 1996-19604195	19960206
IN 182568	A1	19990508	IN 1997-CA92	19970117
EP 789027	A1	19970813	EP 1997-100943	19970122
R: CH, DE, ES, FR, IT, LI				
CN 1165145	A	19971119	CN 1997-102420	19970203
JP 09309891	A	19971202	JP 1997-22985	19970205
US 5734072	A	19980331	US 1997-794439	19970205
BR 9700883	A	19981027	BR 1997-883	19970205
PRIORITY APPLN. INFO.:			DE 1996-19604195	A 19960206
OTHER SOURCE(S): CASREACT 126:277597; MARPAT 126:277597				
AB	The preparation of title compds., R1P(O)(H)(OR2) (R1 = C1-16 alkyl, cycloalkyl, cyclopentyl, Ph, halogenated Ph, C1-8 alkyl, C1-6 alkoxy, dialkylamino), useful as flame retardants, herbicides, metal extraction material, antidepressant, via the reaction of R1PCl2 with R2OH followed by ion-exchange with ammonia, is described. Thus, reaction of MePCl2 with isobutanol at 5-10° followed by ion-exchange with ammonia gave 92.5% methanephosphonic acid iso-Bu ester.			
IC	ICM C07F009-48			
ICA	C07F009-52; C07C031-00			
CC	29-7 (Organometallic and Organometalloidal Compounds)			
IT	2511-09-3P, Ethyl phenylphosphinate 16259-93-1P, Ethyl isobutylphosphinate 16391-06-3P, Methyl methanephosphinate 16391-07-4P, Ethyl methanephosphinate 21204-48-8P, Isopropyl methanephosphinate 25296-66-6P, Isobutyl methanephosphinate 109739-44-8P, Ethyl isopropylphosphinate RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)			
IT	644-97-3, Dichloro(phenyl)phosphine 676-83-5, Dichloro(methyl)phosphine 17045-33-9, Dichloroisobutylphosphine 25235-15-8, Dichloroisopropylphosphine RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with alc.)			
IT	64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions 78-83-1, Isobutanol, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with dichloro(alkyl)phosphine)			
IT	2511-09-3P, Ethyl phenylphosphinate 16259-93-1P, Ethyl isobutylphosphinate 16391-06-3P, Methyl methanephosphinate 16391-07-4P, Ethyl methanephosphinate 21204-48-8P, Isopropyl methanephosphinate 25296-66-6P, Isobutyl methanephosphinate 109739-44-8P, Ethyl isopropylphosphinate RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)			
RN	2511-09-3 HCAPLUS			
CN	Phosphinic acid, P-phenyl-, ethyl ester (CA INDEX NAME)			



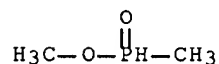
RN 16259-93-1 HCAPLUS

CN Phosphinic acid, (2-methylpropyl)-, ethyl ester (9CI) (CA INDEX NAME)



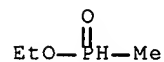
RN 16391-06-3 HCAPLUS

CN Phosphinic acid, methyl-, methyl ester (8CI, 9CI) (CA INDEX NAME)



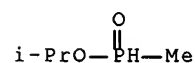
RN 16391-07-4 HCAPLUS

CN Phosphinic acid, P-methyl-, ethyl ester (CA INDEX NAME)



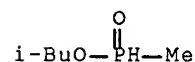
RN 21204-48-8 HCAPLUS

CN Phosphinic acid, methyl-, 1-methylethyl ester (9CI) (CA INDEX NAME)



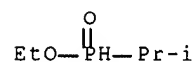
RN 25296-66-6 HCAPLUS

CN Phosphinic acid, methyl-, 2-methylpropyl ester (9CI) (CA INDEX NAME)

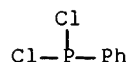


RN 109739-44-8 HCAPLUS

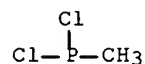
CN Phosphinic acid, (1-methylethyl)-, ethyl ester (9CI) (CA INDEX NAME)



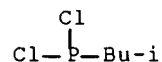
IT 644-97-3, Dichloro(phenyl)phosphine 676-83-5,  
 Dichloro(methyl)phosphine 17045-33-9, Dichloroisobutylphosphine  
 25235-15-8, Dichloroisopropylphosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with alc.)  
 RN 644-97-3 HCAPLUS  
 CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)



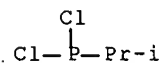
RN 676-83-5 HCAPLUS  
 CN Phosphonous dichloride, P-methyl- (CA INDEX NAME)



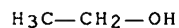
RN 17045-33-9 HCAPLUS  
 CN Phosphonous dichloride, (2-methylpropyl)- (9CI) (CA INDEX NAME)



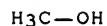
RN 25235-15-8 HCAPLUS  
 CN Phosphonous dichloride, P-(1-methylethyl)- (CA INDEX NAME)



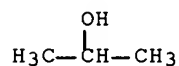
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions  
 67-63-0, Isopropanol, reactions 78-83-1, Isobutanol,  
 reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with dichloro(alkyl)phosphine)  
 RN 64-17-5 HCAPLUS  
 CN Ethanol (CA INDEX NAME)



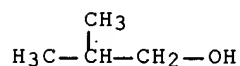
RN 67-56-1 HCAPLUS  
CN Methanol (CA INDEX NAME)



RN 67-63-0 HCAPLUS  
CN 2-Propanol (CA INDEX NAME)

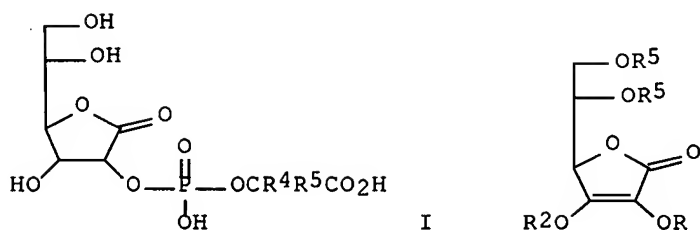


RN 78-83-1 HCAPLUS  
CN 1-Propanol, 2-methyl- (CA INDEX NAME)



L47 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1997:181081 HCAPLUS Full-text  
DOCUMENT NUMBER: 126:186316  
TITLE: Preparation of L-ascorbic acid 2-phosphate  
 $\alpha$ -hydroxy acid esters having excellent storage  
stability  
INVENTOR(S): Morizaki, Kazuo; Sasaki, Masanao; Ozaki, Shoichiro;  
Watanabe, Yutaka  
PATENT ASSIGNEE(S): Kanto Denka Kogyo Kk, Japan; Ozaki Shoichiro  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 09020790	A	19970121	JP 1995-167638	19950703
JP 3619287	B2	20050209		
PRIORITY APPLN. INFO.:			JP 1995-167638	19950703
OTHER SOURCE(S):	MARPAT	126:186316		
GI				



- AB The title compds. [I; R3, R4 = H, (CH2)pMe, [(CH2)q(CHMe)r]s, CH[(CH2)tMe]u; p, q, r, s, t, u = 0-20] are prepared by condensation of alkoxybis(substituted amino)phosphine of formula (R1R1N)2POR2 (R1 = sec- or tert-alkyl or R1R1N forms a heterocyclic amino; R2 = group cleavable upon reduction such as benzyl, methoxybenzyl, nitrobenzyl, or cyanobenzyl) with  $\alpha$ -hydroxy acid of formula HO-CR3R4CO2R2 (R2, R3, R4 = same as above) in the presence of a condensing agent, condensation of the resulting R1R1NP(OR2)OCR3R4CO2R2 (R1 - R4 = same as above) with an ascorbic acid derivative (II; R = H; R2 = same as above; R5 group listed in R2) followed by oxidation, and reductive deprotection of the resulting ascorbic acid 2-phosphate derivs. II [R = P(OR2)OCR3R4CO2R2; R2 - R5 = same as above]. They are stable vitamin C derivs. with excellent storage stability, have a broad range of physiol. and pharmaceutical activities such as antioxidant activity and melanin-formation inhibitory activity accompanied by reduction of and melanin dyes and dopaquinone, and are useful for cosmetics, drugs, and foods. Thus, PhCH2OP[N(CHMe2)2]2 (preparation given) was condensed with benzyl glycolate (preparation given) in the presence of 1H-tetrazole in CH2Cl2 at room temperature for 4 h to give 98% PhCH2OP[N(CHMe2)2]OCH2CO2CH2Ph, which was similarly condensed with 3-O-benzyl-5,6-O-benzylidene-L-ascorbic acid at room temperature for 2 h followed by oxidation with m-chloroperbenzoic acid at 0° to room temperature for 1 h to give II [R = P(OCH2Ph)OCH2CO2CH2Ph, R2 = CH2Ph, R5R5 = CHPh]. The latter compound was hydrogenolyzed over 5% Pd-C in MeOH under h atmospheric at room temperature for 30 h, filtered to remove the catalyst, evaporated in vacuo to remove the solvent, and passed through a column of Diaion SK1B (Na form) (cation exchanger) to give I.Na (R4 = R5 = H). A 1% solution of the latter compound in 50% aqueous EtOH was tested for stability by heating it at 50° for 14 days or exposing it to sun light for 14 days to show residual ratio of 91.3 or 82.9%, resp., vs. 22.4 or 27.3%, resp. for ascorbic acid. A cosmetic solution containing 2.0 weight% of the latter compound was applied to 20 female panelists twice a day for 2 mo to show skin whitening effect for 16 panelists.
- IC ICM C07F009-655
- CC 33-8 (Carbohydrates)
- Section cross-reference(s): 17, 62
- IT 50-81-7, L-Ascorbic acid, reactions 79-14-1, Glycolic acid, reactions 100-39-0, Benzyl bromide 100-51-6, Benzyl alcohol, reactions 100-52-7, Benzaldehyde, reactions 108-18-9, Diisopropylamine 7719-12-2, Phosphorus trichloride
- RL: RCT (Reactant); RACT (Reactant or reagent)
- (preparation of L-ascorbic acid phosphate  $\alpha$ -hydroxy acid esters with excellent storage stability as antioxidants and melanin formation inhibitors)
- IT 20664-60-2P, 5,6-O-Benzylidene-L-ascorbic acid 30379-58-9P, Benzyl glycolate 56183-63-2P, Bis(diisopropylamino)chlorophosphine 108549-21-9P, Benzyloxybis(diisopropylamino)phosphine 180297-85-2P, 3-O-Benzyl-5,6-O-benzylidene-L-ascorbic acid

180297-86-3P 180297-96-5P 187224-35-7P

RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation of L-ascorbic acid phosphate  $\alpha$ -hydroxy acid esters with excellent storage stability as antioxidants and melanin formation inhibitors)

IT 50-81-7, L-Ascorbic acid, reactions 79-14-1, Glycolic acid, reactions 100-51-6, Benzyl alcohol, reactions 7719-12-2, Phosphorus trichloride

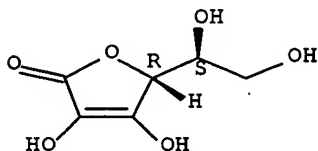
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of L-ascorbic acid phosphate  $\alpha$ -hydroxy acid esters with excellent storage stability as antioxidants and melanin formation inhibitors)

RN 50-81-7 HCAPLUS

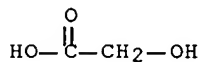
CN L-Ascorbic acid (CA INDEX NAME)

Absolute stereochemistry.



RN 79-14-1 HCAPLUS

CN Acetic acid, 2-hydroxy- (CA INDEX NAME)



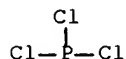
RN 100-51-6 HCAPLUS

CN Benzenemethanol (CA INDEX NAME)



RN 7719-12-2 HCAPLUS

CN Phosphorous trichloride (CA INDEX NAME)



IT 20664-60-2P, 5,6-O-Benzylidene-L-ascorbic acid 30379-58-9P  
 , Benzyl glycolate 56183-63-2P, Bis(diisopropylamino)chlorophosphine 108549-21-9P, Benzyloxybis(diisopropylamino)phosphine

180297-85-2P, 3-O-Benzyl-5,6-O-benzylidene-L-ascorbic acid

180297-86-3P 187224-35-7P

RL: RCT (Reactant); SPN (Synthetic preparation);

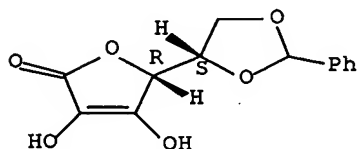
PREP (Preparation); RACT (Reactant or reagent)

(preparation of L-ascorbic acid phosphate  $\alpha$ -hydroxy acid esters with excellent storage stability as antioxidants and melanin formation inhibitors)

RN 20664-60-2 HCAPLUS

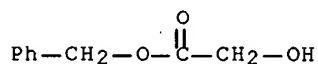
CN L-Ascorbic acid, 5,6-O-(phenylmethylene)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



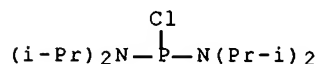
RN 30379-58-9 HCAPLUS

CN Acetic acid, 2-hydroxy-, phenylmethyl ester (CA INDEX NAME)



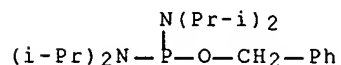
RN 56183-63-2 HCAPLUS

CN Phosphorodiamidous chloride, N,N,N',N'-tetrakis(1-methylethyl)- (CA INDEX NAME)



RN 108549-21-9 HCAPLUS

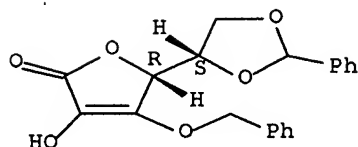
CN Phosphorodiamidous acid, N,N,N',N'-tetrakis(1-methylethyl)-, phenylmethyl ester (CA INDEX NAME)



RN 180297-85-2 HCAPLUS

CN L-Ascorbic acid, 3-O-(phenylmethyl)-5,6-O-(phenylmethylene)- (9CI) (CA INDEX NAME)

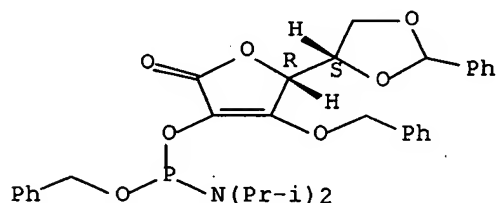
Absolute stereochemistry.



RN 180297-86-3 HCAPLUS

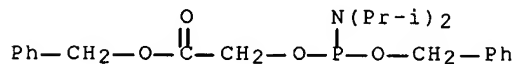
CN L-Ascorbic acid, 3-O-(phenylmethyl)-5,6-O-(phenylmethylene)-,  
[phenylmethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 187224-35-7 HCAPLUS

CN Acetic acid, [[[bis(1-methylethyl)amino] (phenylmethoxy)phosphino]oxy]-,  
phenylmethyl ester (9CI) (CA INDEX NAME)



L47 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:623030 HCAPLUS Full-text

DOCUMENT NUMBER: 125:248797

TITLE: Aluminoxane-free olefin polymerization catalysts for  
preparation of polyolefins with good particle  
properties

INVENTOR(S): Sugano, Toshihiko; Yamamoto, Kazuhiro

PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Japan

SOURCE: Eur. Pat. Appl., 29 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 728773	A1	19960828	EP 1996-301081	19960216
EP 728773	B1	19981104		
R: DE, FR, IT				
US 5942459	A	19990824	US 1996-605553	19960220

JP 08291203 A 19961105 JP 1996-33529 19960221  
 JP 3584110 B2 20041104

PRIORITY APPLN. INFO.: JP 1995-32620 A 19950221

AB The object of the present invention is to provide a polyolefin having a good particle property in a high yield without use of an expensive aluminosilane. Catalysts for the title polymerization comprise (A) a transition metal compound having  $\geq 1$  conjugated five-membered ring ligand, the transition metal being in Groups IV-VI of the periodic table; (B) an organoaluminum compound; and (C) a finely divided particle compns. containing 0.1-99.9% boric acid. Olefin polymers are prepared by contacting an olefin with the catalyst. Thus, ethylene was polymerized with 1-hexene in the presence of dimethylsilylenebis(tetrahydroindenyl)zirconium dichloride (component A), Al(iso-Bu)<sub>3</sub> (component B), and silica gel containing 20% B(OH)<sub>3</sub> (component C) to give 39.5 g polymer, and the activity was 790,000 g polymer/g Zr.

IC ICM C08F010-00

ICS C08F004-02; C08F004-657

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29

IT Ion exchangers

Polyamides, uses

Polycarbonates, uses

Polyoxyphenylenes

Silica gel, uses

RL: CAT (Catalyst use); USES (Uses)

(finely divided particle composition in catalyst containing boric acid; aluminosilane-free catalyst for manufacture of polyolefins with good particle properties)

IT 112549-05-0P 174702-73-9P 175649-10-2P 182188-87-0P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(catalyst containing; aluminosilane-free catalyst for manufacture of polyolefins with good particle properties)

IT 66191-99-9P 66192-08-3P 66192-12-9P 66192-21-0P

93098-67-0P 102539-53-7P, 4-Bromo-3-methyl-1-indanone

112549-07-2P 174702-59-1P 174702-74-0P 174702-75-1P

174702-76-2P 175649-09-9P 182056-57-1P 182056-62-8P

182056-68-4P 182056-74-2P 182188-80-3P 182188-81-4P

182188-82-5P 182188-83-6P 182188-86-9P

RL: IMF (Industrial manufacture); RCT (Reactant);

PREP (Preparation); RACT (Reactant or reagent)

(intermediate in metallocene catalyst manufacture; aluminosilane-free catalyst

for manufacture of polyolefins with good particle properties)

IT 75-78-5 91-20-3, Naphthalene, reactions 100-58-3, Phenylmagnesium

bromide 105-53-3, Diethyl malonate 503-17-3, 2-Butyne 591-51-5,

Phenyllithium 609-08-5, Diethyl methylmalonate 644-97-3,

Dichlorophenylphosphine 769-86-8, 2-Methylazulene 3433-80-5,

2-Bromobenzyl bromide 6630-33-7, 2-Bromobenzaldehyde 10026-11-6,

Zirconium tetrachloride 28148-04-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material in metallocene catalyst manufacture; aluminosilane-free catalyst for manufacture of polyolefins with good particle properties)

IT 112549-05-0P

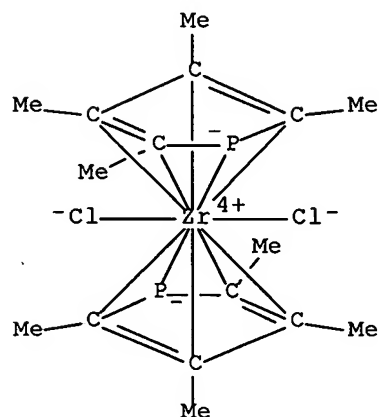
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(catalyst containing; aluminosilane-free catalyst for manufacture of polyolefins

with good particle properties)

RN 112549-05-0 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- $\eta$ )-2,3,4,5-tetramethyl-1H-phosphol-1-yl]- (9CI) (CA INDEX NAME)

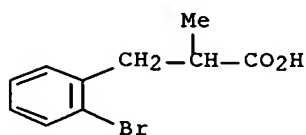


IT 66191-99-9P 66192-08-3P 112549-07-2P  
 182056-62-8P 182188-81-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate in metallocene catalyst manufacture; aluminoxane-free catalyst

for manufacture of polyolefins with good particle properties)

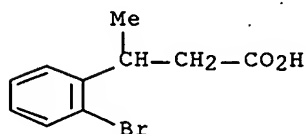
RN 66191-99-9 HCAPLUS

CN Benzenepropanoic acid, 2-bromo- $\alpha$ -methyl- (9CI) (CA INDEX NAME)



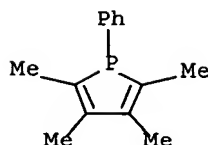
RN 66192-08-3 HCAPLUS

CN Benzenepropanoic acid, 2-bromo- $\beta$ -methyl- (9CI) (CA INDEX NAME)



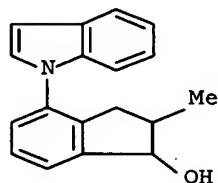
RN 112549-07-2 HCAPLUS

CN 1H-Phosphole, 2,3,4,5-tetramethyl-1-phenyl- (9CI) (CA INDEX NAME)



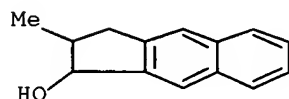
RN 182056-62-8 HCAPLUS

CN 1H-Inden-1-ol, 2,3-dihydro-4-(1H-indol-1-yl)-2-methyl- (9CI) (CA INDEX NAME)



RN 182188-81-4 HCAPLUS

CN 1H-Benz[f]inden-1-ol, 2,3-dihydro-2-methyl- (9CI) (CA INDEX NAME)



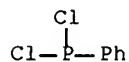
IT 644-97-3, Dichlorophenylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material in metallocene catalyst manufacture; aluminoxane-free catalyst for manufacture of polyolefins with good particle properties)

RN 644-97-3 HCAPLUS

CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)



L47 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:295366 HCAPLUS Full-text

DOCUMENT NUMBER: 125:59078

TITLE: Solid-phase synthesis of H- and methylphosphonopeptides

AUTHOR(S): Hoffmann, Ralf; Tholey, Andreas; Hoffmann, Thomas; Kalbitzer, Hans Robert

CORPORATE SOURCE: Univ. Saarland, Saarbruecken, Germany

SOURCE: International Journal of Peptide & Protein Research  
(1996), 47(4), 245-253  
CODEN: IJPPC3; ISSN: 0367-8377

PUBLISHER: Munksgaard

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Solid-phase syntheses of H- and methylphosphono-peptides give access for the first time to a new class of mimics for o-phosphoamino acids. The model peptides H-GlyGlyXaaAla-OH (Xaa = Ser, Thr) were synthesized on a solid-phase using Fmoc/tBu strategy and HBTU/HOBt activation by incorporation of hydroxyl-protected serine and threonine. Triphenylmethyl and tert-butyldimethylsilyl were used as hydroxyl-protecting groups. All peptides were phosphitylated with O,O-di-tert-butyl-N,N-diethylphosphoramidite and yielded H-phosphono-peptides after trifluoroacetic acid cleavage. Alternatively, the peptides were phosphorylated with O-tert-butyl-N,N-diethyl-P-methylphosphonamidite, which was synthesized by a two-step one-pot procedure starting from com. available chems. All H- and methylphosphono-peptides were obtained in high purities and yields, as shown by reversed-phase high-performance liquid chromatog. and anion-exchange chromatog. Compared with the corresponding phosphopeptides, all phosphono-peptides were synthesized in higher yields and purities (>80%).

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT 75-65-0, reactions 109-89-7, reactions 676-83-5,  
Dichloromethylphosphine 137709-66-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(solid-phase synthesis of H- and methylphosphono-peptides)

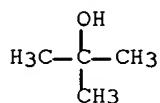
IT 68171-97-1P 160650-12-4P 178200-53-8P  
178200-60-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(solid-phase synthesis of H- and methylphosphono-peptides)

IT 159330-38-8P 159330-39-9P 178200-54-9P 178200-55-0P  
178200-56-1P 178200-57-2P 178200-58-3P 178200-59-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(solid-phase synthesis of H- and methylphosphono-peptides)

IT 75-65-0, reactions 676-83-5, Dichloromethylphosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(solid-phase synthesis of H- and methylphosphono-peptides)

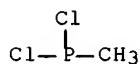
RN 75-65-0 HCAPLUS

CN 2-Propanol, 2-methyl- (CA INDEX NAME)



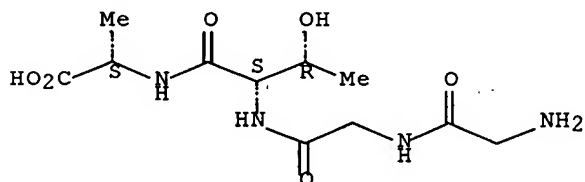
RN 676-83-5 HCAPLUS

CN Phosphonous dichloride, P-methyl- (CA INDEX NAME)



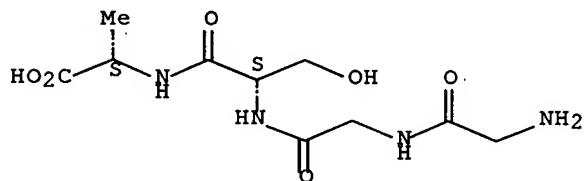
IT 68171-97-1P 160650-12-4P 178200-60-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (solid-phase synthesis of H- and methylphosphono-peptides)  
 RN 68171-97-1 HCAPLUS  
 CN L-Alanine, glycylglycyl-L-threonyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 160650-12-4 HCAPLUS  
 CN L-Alanine, glycylglycyl-L-seryl- (CA INDEX NAME)

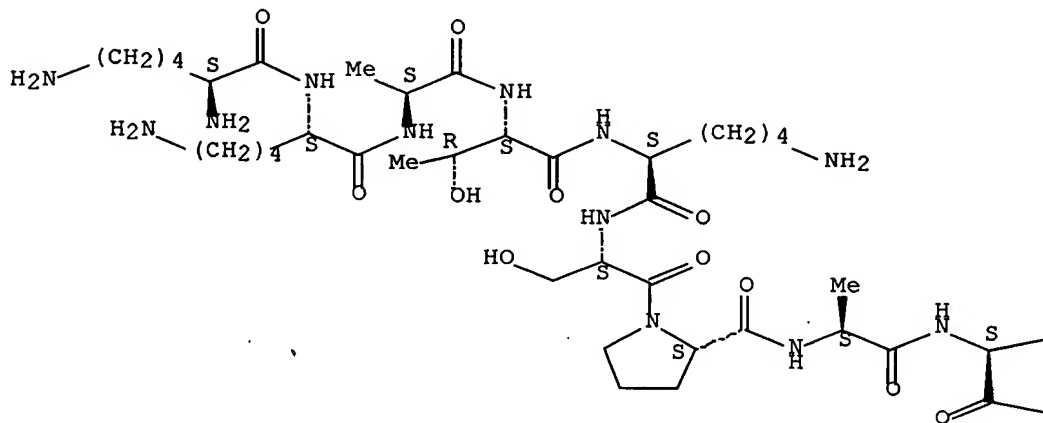
Absolute stereochemistry.



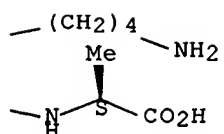
RN 178200-60-7 HCAPLUS  
 CN L-Alanine, N-[N2-[N-[1-[N-[N2-[N-[N-(N2-L-lysyl-L-lysyl)-L-alanyl]-L-threonyl]-L-lysyl]-L-seryl]-L-prolyl]-L-alanyl]-L-lysyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



IT 178200-56-1P 178200-57-2P

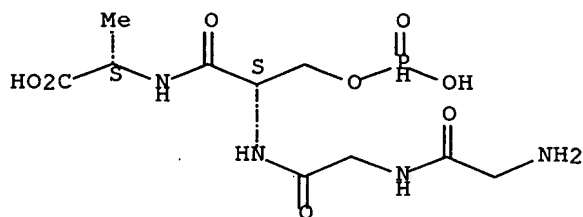
RL: SPN (Synthetic preparation); PREP (Preparation)

(solid-phase synthesis of H- and methylphosphonopeptides)

RN 178200-56-1 HCAPLUS

CN L-Alanine, glycylglycyl-O-(hydroxyphosphinyl)-L-seryl- (9CI) (CA INDEX NAME)

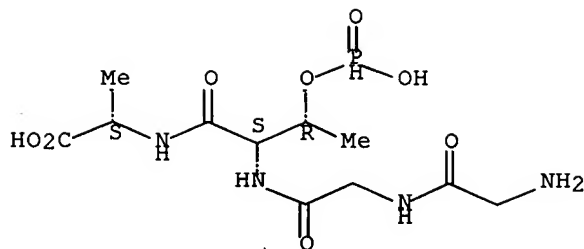
Absolute stereochemistry.



RN 178200-57-2 HCAPLUS

CN L-Alanine, glycylglycyl-O-(hydroxyphosphinyl)-L-threonyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:39058 HCAPLUS Full-text

DOCUMENT NUMBER: 118:39058

TITLE: Synthesis and reactions of 2,2,2-trihaloethyl  $\alpha$ -hydroxyiminobenzylphosphonates. The influence of the ester group on the chemistry of phosphonates

AUTHOR(S): Breuer, Eli; Mahajna, Mahmoud

CORPORATE SOURCE: Sch. Pharm., Hebrew Univ., Jerusalem, 91120, Israel

SOURCE: Heteroatom Chemistry (1992), 3(3), 251-60

CODEN: HETCE8; ISSN: 1042-7163

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:39058

AB Arbuzov reactions of di-Et 2,2,2-trihaloethyl phosphites with benzoyl chloride afforded Et 2,2,2-trihaloethyl benzoylphosphonates  $\text{PhC(O)P(O)(OEt)OCH}_2\text{CX}_3$  (I, X = F, Cl). The reactions of I with  $\text{NH}_2\text{OH}\cdot\text{HCl}$  led to the formation of Me benzoate and Et Me hydrogen phosphonate as a result of alcoholysis of I, followed by alkoxy group exchange. Methanol solns. of benzoylphosphonates I were found by  $^{31}\text{P}$  NMR spectroscopy to contain considerable proportions of hemiacetals, which undergo base-catalyzed C-P bond cleavage. The hemiacetal formation is suppressed in 2-propanol, and in this solvent the corresponding oximes  $\text{PhC(:NOH)P(O)(OEt)OCH}_2\text{CX}_3$  (II) could be obtained in good yields. Reactions of Me benzoylphosphonochloridate with 2,2,2-trihaloethanols in  $\text{CH}_2\text{Cl}_2$  gave Me 2,2,2-trihaloethyl benzoylphosphonates which could be converted directly to oximes  $\text{PhC(:NOH)P(O)(OMe)OCH}_2\text{CX}_3$  (III) by  $\text{NH}_2\text{OH}\cdot\text{HCl}$  in a one-pot procedure. Both (E)- and (Z)-trihaloethyl esters II and III underwent fragmentation to benzonitrile and to the corresponding dialkyl hydrogen phosphate instead of undergoing a thermal Beckmann rearrangement, reflecting the increased electrophilicity of the phosphorus in these compds. Demethylation of Me esters III was effected smoothly by iodide or bromide ions to yield benzoylphosphonate salts, which in turn were converted to oxime salts by treatment with hydroxylamine. In contrast, attempted deethylation of Et esters II in refluxing acetonitrile led to benzonitrile and pyrophosphate type products. The oxime salts behaved similarly when heated. Acidification of lithium 2,2,2-trifluoroethyl  $\alpha$ -hydroxyiminobenzylphosphonate gave the corresponding hydrogen trifluoroethyl phosphonate (IV). The fragmentation of IV in 0.6 N ethanolic HCl to Et trifluoroethyl hydrogen phosphate and benzonitrile at room temperature had a  $T_{1/2}$  value of approx 18 h, which is greater by a factor of 2 than that of the corresponding Me ester. When the fragmentation of IV was carried out in solvent mixts. of either water with methanol or 2-propanol, or methanol with tert-butanol, the composition of the solvents was reflected in the products, indicating a dissociative type mechanism, involving metaphosphate as reactive intermediates.

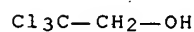
CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 75-89-8, 2,2,2-Trifluoroethanol 115-20-8,  
2,2,2-Trichloroethanol

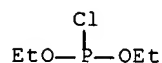
RL: RCT (Reactant); RACT (Reactant or reagent)  
 (ethoxylation by, of di-Et phosphochloridite)  
 IT 589-57-1, Diethyl phosphochloridite  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (ethoxylation of, with trihaloethanol)  
 IT 868-85-9P 145161-48-4P  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, from methanolysis of benzoylphosphonate)  
 IT 458-64-0P, Diethyl 2,2,2-trifluoroethyl phosphite  
 82564-87-2P, Diethyl 2,2,2-trichloroethyl phosphite  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Arbuzov reaction of, with benzoyl chloride)  
 IT 75-89-8, 2,2,2-Trifluoroethanol 115-20-8,  
 2,2,2-Trichloroethanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (ethoxylation by, of di-Et phosphochloridite)  
 RN 75-89-8 HCAPLUS  
 CN Ethanol, 2,2,2-trifluoro- (CA INDEX NAME)



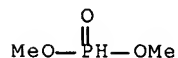
RN 115-20-8 HCAPLUS  
 CN Ethanol, 2,2,2-trichloro- (CA INDEX NAME)



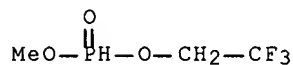
IT 589-57-1, Diethyl phosphochloridite  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (ethoxylation of, with trihaloethanol)  
 RN 589-57-1 HCAPLUS  
 CN Phosphorochloridous acid, diethyl ester (CA INDEX NAME)



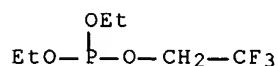
IT 868-85-9P 145161-48-4P  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, from methanolysis of benzoylphosphonate)  
 RN 868-85-9 HCAPLUS  
 CN Phosphonic acid, dimethyl ester (CA INDEX NAME)



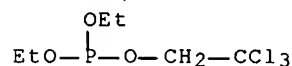
RN 145161-48-4 HCAPLUS  
 CN Phosphonic acid, methyl 2,2,2-trifluoroethyl ester (9CI) (CA INDEX NAME)



IT 458-64-0P, Diethyl 2,2,2-trifluoroethyl phosphite  
 82564-87-2P, Diethyl 2,2,2-trichloroethyl phosphite  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Arbuzov reaction of, with benzoyl chloride)  
 RN 458-64-0 HCAPLUS  
 CN Phosphorous acid, diethyl 2,2,2-trifluoroethyl ester (6CI, 8CI, 9CI) (CA  
 INDEX NAME)



RN 82564-87-2 HCAPLUS  
 CN Phosphorous acid, diethyl 2,2,2-trichloroethyl ester (6CI, 9CI) (CA INDEX  
 NAME)



L47 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:185642 HCAPLUS Full-text

DOCUMENT NUMBER: 114:185642

TITLE: The extension of the mechanistic concept of the  
 nucleophilic catalysis in silicon chemistry to some  
 reactions of the phosphorus(III) center: analogies  
 between silylation and phosphorylation

AUTHOR(S): Chojnowski, Julian; Cypryk, Marek; Fortuniak, Witold  
 CORPORATE SOURCE: Cent. Mol. Macromol. Stud., Pol. Acad. Sci., Lodz,  
 90-363, Pol.

SOURCE: Heteroatom Chemistry (1991), 2(1), 63-70  
 CODEN: HETCE8; ISSN: 1042-7163

DOCUMENT TYPE: Journal

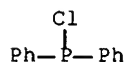
LANGUAGE: English

OTHER SOURCE(S): CASREACT 114:185642

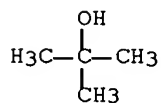
AB Ph2PCl phosphorylates t-BuOH faster under catalysis with 4-N,N-  
 dimethylaminopyridine or N-methylimidazole than in the presence of Et3N by a  
 factor of 400 and 33, resp. The catalytic phosphorylation process exhibits a  
 very low activation energy and a high neg. value of entropy of activation.

The interaction of the uncharged bases with model tricoordinate phosphorus halides lead to the formation of ionic 1:1 complexes without changing the coordination number of phosphorus, in full analogy to the silyl halide complex formation. The interaction of phosphorous tris(dimethylamide) with a silyl iodide and a phosphorous iodide results in both cases in the formation of the ionic 1:1 complex, which also leads to analogous reactions of exchange of the amide group with iodide. These close similarities imply that some phosphorylation reactions with tricoordinate phosphorus halides catalyzed with uncharged bases occur via a tricoordinate phosphorus cation intermediate.

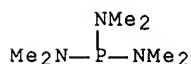
CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 1079-66-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nucleophile-catalyzed phosphorylation by, of tert-butanol)  
 IT 75-65-0, tert-Butanol, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nucleophile-catalyzed phosphorylation of)  
 IT 1608-26-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 1079-66-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nucleophile-catalyzed phosphorylation by, of tert-butanol)  
 RN 1079-66-9 HCAPLUS  
 CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



IT 75-65-0, tert-Butanol, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nucleophile-catalyzed phosphorylation of)  
 RN 75-65-0 HCAPLUS  
 CN 2-Propanol, 2-methyl- (CA INDEX NAME)



IT 1608-26-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 1608-26-0 HCAPLUS  
 CN Phosphorous triamide, N,N,N',N',N'',N''-hexamethyl- (CA INDEX NAME)



L47 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:441237 HCAPLUS Full-text

DOCUMENT NUMBER: 113:41237

TITLE: Aminophosphine phosphinites of propranolol as ligands for rhodium catalyzed asymmetric hydrogenation of dehydroamino acids

AUTHOR(S): Krause, H. W.; Foken, H.; Pracejus, H.

CORPORATE SOURCE: Cent. Inst. Org. Chem., Acad. Sci. GDR, Rostock, 2500, Ger. Dem. Rep.

SOURCE: New Journal of Chemistry (1989), 13(8-9), 615-20

CODEN: NJCHE5; ISSN: 1144-0546

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:41237

AB From the enantiomers of propranolol derivative 1-C10H7OCH(OR)CH2NRCHMe2 (I, R = H), the aminophosphine phosphinite ligands (S)- and (R)-I (R = PPh2) were prepared. Their neutral and cationic Rh complexes as well as their in situ complexes were tested in the asym. hydrogenation of dehydroamino acids giving rise to about 80-90% enantiomeric excess with high activity. Similar results were obtained starting from CuCl complexes by in situ exchange with [Rh(COD)Cl]2 (COD = 1,5-cyclooctadiene). The bias is presumed to be provoked mainly by the steric effect of the bulky iso-Pr group.

CC 34-2 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 29

IT 21462-02-2 26348-47-0 54837-84-2

55065-02-6 60676-51-9 66789-45-5

76313-29-6 127803-20-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrogenation of, stereochem. of rhodium-catalyzed)

IT 116494-92-9P 116653-08-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and complexation of, with neutral and cationic rhodium, as asym. hydrogenation catalyst)

IT 127823-05-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and complexation of, with rhodium (I), as asym. hydrogenation catalyst)

IT 127803-17-2P 127803-18-3P 127803-19-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

IT 13071-11-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorodicyclohexylphosphine and chlorodiphenylphosphine)

IT 4199-10-4 127910-24-1 127910-25-2

127993-96-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorodiphenylphosphine)

IT 16523-54-9, Chlorodicyclohexylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with propranolol derivs.)

IT 1079-66-9, Chlorodiphenylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactions of, with propranolol derivs.)

IT 21462-02-2 26348-47-0 54837-84-2

55065-02-6 60676-51-9 66789-45-5

76313-29-6 127803-20-7

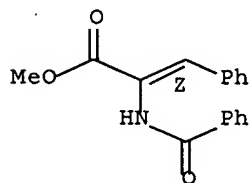
RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrogenation of, stereochem. of rhodium-catalyzed)

RN 21462-02-2 HCAPLUS

CN 2-Propenoic acid, 2-(benzoylamino)-3-phenyl-, methyl ester, (2Z)- (CA INDEX NAME)

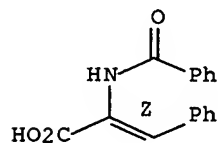
Double bond geometry as shown.



RN 26348-47-0 HCAPLUS

CN 2-Propenoic acid, 2-(benzoylamino)-3-phenyl-, (2Z)- (9CI) (CA INDEX NAME)

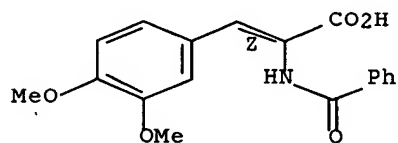
Double bond geometry as shown.



RN 54837-84-2 HCAPLUS

CN 2-Propenoic acid, 2-(benzoylamino)-3-(3,4-dimethoxyphenyl)-, (2Z)- (9CI) (CA INDEX NAME)

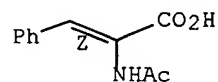
Double bond geometry as shown.



RN 55065-02-6 HCAPLUS

CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, (2Z)- (CA INDEX NAME)

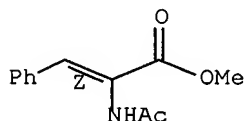
Double bond geometry as shown.



RN 60676-51-9 HCAPLUS

CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, methyl ester, (2Z)- (CA INDEX NAME)

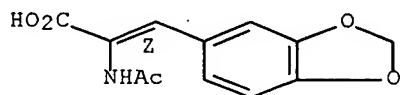
Double bond geometry as shown.



RN 66789-45-5 HCAPLUS

CN 2-Propenoic acid, 2-(acetylamino)-3-(1,3-benzodioxol-5-yl)-, (2Z)- (9CI) (CA INDEX NAME)

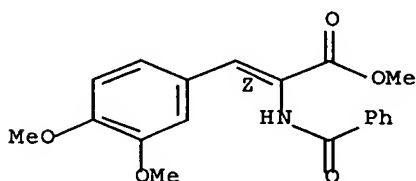
Double bond geometry as shown.



RN 76313-29-6 HCAPLUS

CN 2-Propenoic acid, 2-(benzoylamino)-3-(3,4-dimethoxyphenyl)-, methyl ester, (2Z)- (9CI) (CA INDEX NAME)

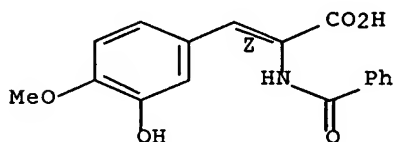
Double bond geometry as shown.



RN 127803-20-7 HCAPLUS

CN 2-Propenoic acid, 2-(benzoylamino)-3-(3-hydroxy-4-methoxyphenyl)-, (Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT 116494-92-9P 116653-08-8P

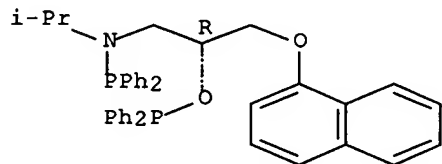
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and complexation of, with neutral and cationic rhodium, as asym. hydrogenation catalyst)

RN 116494-92-9 HCAPLUS

CN Phosphinous acid, diphenyl-, (1R)-1-[[[(diphenylphosphino)(1-methylethyl)amino]methyl]-2-(1-naphthalenyloxy)ethyl ester (9CI) (CA INDEX NAME)

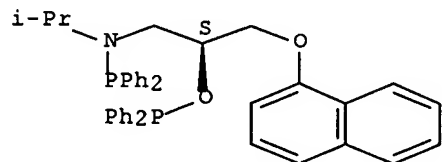
Absolute stereochemistry. Rotation (-).



RN 116653-08-8 HCAPLUS

CN Phosphinous acid, diphenyl-, (1S)-1-[[[(diphenylphosphino)(1-methylethyl)amino]methyl]-2-(1-naphthalenyloxy)ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 127823-05-6P

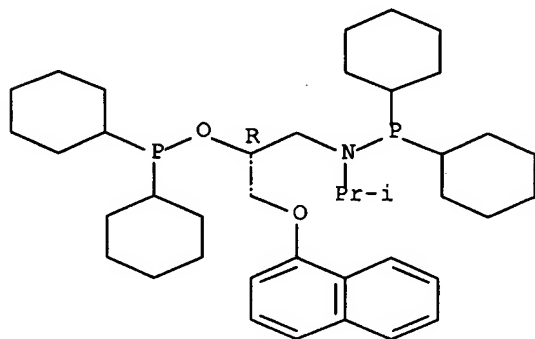
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and complexation of, with rhodium (I), as asym. hydrogenation catalyst)

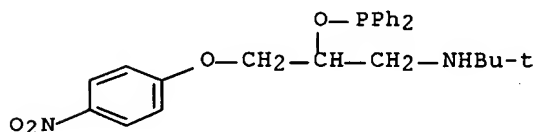
RN 127823-05-6 HCAPLUS

CN Phosphinous acid, dicyclohexyl-, 1-[[[(dicyclohexylphosphino)(1-methylethyl)amino]methyl]-2-(1-naphthalenyloxy)ethyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

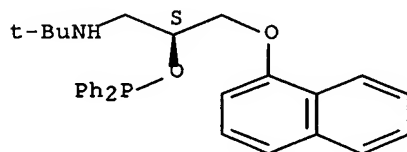


IT 127803-17-2P 127803-18-3P 127803-19-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 127803-17-2 HCAPLUS  
 CN Phosphinous acid, diphenyl-, 1-[[[(1,1-dimethylethyl)amino]methyl]-2-(4-nitrophenoxy)ethyl ester (9CI) (CA INDEX NAME)



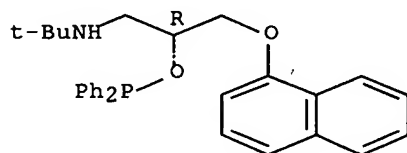
RN 127803-18-3 HCAPLUS  
 CN Phosphinous acid, diphenyl-, 1-[[[(1,1-dimethylethyl)amino]methyl]-2-(1-naphthalenyloxy)ethyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



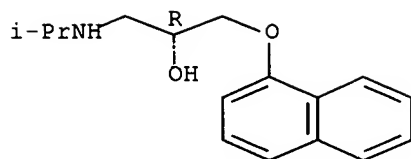
RN 127803-19-4 HCAPLUS  
 CN Phosphinous acid, diphenyl-, 1-[[[(1,1-dimethylethyl)amino]methyl]-2-(1-naphthalenyloxy)ethyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 13071-11-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with chlorodicyclohexylphosphine and  
 chlorodiphenylphosphine)  
 RN 13071-11-9 HCAPLUS  
 CN 2-Propanol, 1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)-, hydrochloride  
 (1:1), (2R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



● HCl

IT 4199-10-4 127910-24-1 127910-25-2

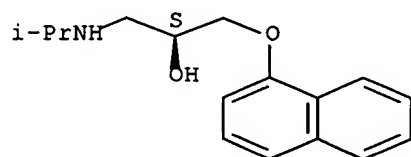
127993-96-8

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chlorodiphenylphosphine)

RN 4199-10-4 HCAPLUS

CN 2-Propanol, 1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)-, hydrochloride  
(1:1), (2S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

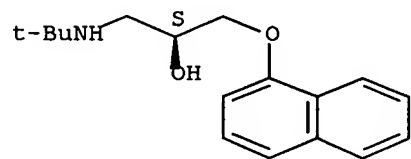


● HCl

RN 127910-24-1 HCAPLUS

CN 2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-(1-naphthalenyloxy)-,  
hydrochloride, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

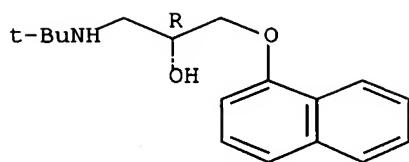


● HCl

RN 127910-25-2 HCAPLUS

CN 2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-(1-naphthalenyloxy)-,  
hydrochloride, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

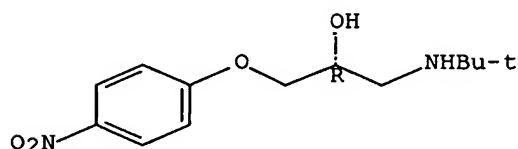


● HCl

RN 127993-96-8 HCAPLUS

CN 2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-(4-nitrophenoxy)-, monohydrochloride, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



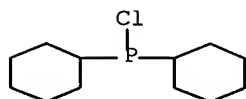
● HCl

IT 16523-54-9, Chlorodicyclohexylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with propranolol derivs.)

RN 16523-54-9 HCAPLUS

CN Phosphinous chloride, P,P-dicyclohexyl- (CA INDEX NAME)

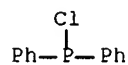


IT 1079-66-9, Chlorodiphenylphosphine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactions of, with propranolol derivs.)

RN 1079-66-9 HCAPLUS

CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



Rc1ccc(cc1)OCCOC(=O)[CH2]n[CH2]C(=O)OCCOc2ccccc2

- 111

IT 107198-78-7P 107198-79-8P 120438-41-7P 120438-42-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and catalysis by, of halogen exchange reactions)  
IT 120434-45-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and extraction by, of alkaline metal picrates)  
IT 538-42-1 16089-48-8 110419-19-7  
120434-47-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(hydrogenation of, with rhodium catalyst in presence of crown ether  
modified phosphines)  
RN 538-42-1 HCAPLUS  
CN 2-Propenoic acid, 3-phenyl-, sodium salt (1:1) (CA INDEX NAME)

Ph-CH=CH-CO<sub>2</sub>H

● Na

RN 16089-48-8 HCAPLUS  
CN 2-Propenoic acid, 3-phenyl-, potassium salt (1:1) (CA INDEX NAME)

Ph-CH=CH-CO<sub>2</sub>H

● K

RN 110419-19-7 HCAPLUS  
CN 2-Propenoic acid, 3-phenyl-, lithium salt (1:1) (CA INDEX NAME)

Ph-CH=CH-CO<sub>2</sub>H

● Li

RN 120434-47-1 HCAPLUS  
CN 2-Propenoic acid, 3-phenyl-, cesium salt (1:1) (CA INDEX NAME)

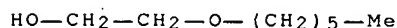
Ph-CH=CH-CO<sub>2</sub>H

● Cs

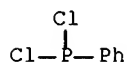
$$\begin{array}{c} \text{Cl} \\ | \\ \text{Ph}-\text{P}-\text{Ph} \end{array}$$
c1ccc(cc1Oc2ccccc2)Oc3ccccc3

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

- (Preparation); RACT (Reactant or reagent)  
 (preparation and Grignard reaction of, in presence of  
 dialkylchloroacetamides, carbamoylmethylphosphine oxide by)
- IT 6172-81-2P, n-Butyl phenylphosphinate  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Grignard reaction of, with alkyl halides)
- IT 3011-82-3P, Dioctylphosphine oxide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Michaelis-Becker reaction of, with dialkylchloroacetamide)
- IT 107694-27-9P, Octyl(phenyl)phosphine oxide  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and condensation of, with dialkylchloroacetamide)
- IT 118959-25-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and condensation of, with dialkylchloroacetamide,  
 carbamoylmethylphosphine oxide by)
- IT 118959-26-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with bromoethyl hexyl ether)
- IT 118959-24-3P, 2,4,4-Trimethylpentyl(phenyl)phosphine oxide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dialkylchloroacetamide)
- IT 683-19-2P, Dioctylphosphinic acid 2511-09-3P,  
 Ethyl(phenyl)phosphinate 7301-81-7P 10311-08-7P 19315-13-0P  
 102867-82-3P 118914-44-6P 118945-32-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)
- IT 112-25-4, 2-n-Hexyloxyethanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with dichloro(phenyl)phosphine)
- RN 112-25-4 HCAPLUS  
 CN Ethanol, 2-(hexyloxy)- (CA INDEX NAME)

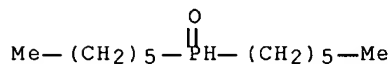


- IT 644-97-3, Dichloro(phenyl)phosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with hexyloxyethanol)
- RN 644-97-3 HCAPLUS  
 CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)

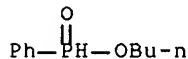


- IT 17529-42-9P, Dihexylphosphine oxide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Grignard reaction of, in presence of

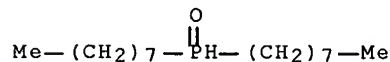
dialkylchloroacetamides, carbamoylmethylphosphine oxide by)  
 RN 17529-42-9 HCAPLUS  
 CN Phosphine oxide, dihexyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



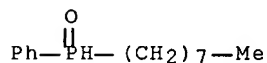
IT 6172-81-2P, n-Butyl phenylphosphinate  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Grignard reaction of, with alkyl halides)  
 RN 6172-81-2 HCAPLUS  
 CN Phosphinic acid, phenyl-, butyl ester (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



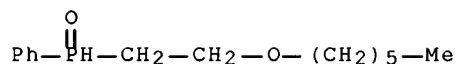
IT 3011-82-3P, Dioctylphosphine oxide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and Michaelis-Becker reaction of, with dialkylchloroacetamide)  
 RN 3011-82-3 HCAPLUS  
 CN Phosphine oxide, dioctyl- (CA INDEX NAME)



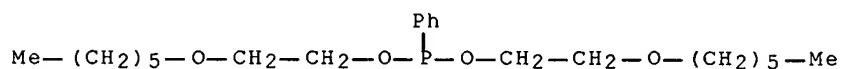
IT 107694-27-9P, Octyl(phenyl)phosphine oxide  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and condensation of, with dialkylchloroacetamide)  
 RN 107694-27-9 HCAPLUS  
 CN Phosphine oxide, octylphenyl- (9CI) (CA INDEX NAME)



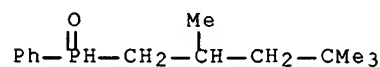
IT 118959-25-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and condensation of, with dialkylchloroacetamide,  
 carbamoylmethylphosphine oxide by)  
 RN 118959-25-4 HCAPLUS  
 CN Phosphine oxide, [2-(hexyloxy)ethyl]phenyl- (9CI) (CA INDEX NAME)



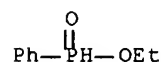
IT 118959-26-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with bromoethyl hexyl ether)  
 RN 118959-26-5 HCAPLUS  
 CN Phosphonous acid, phenyl-, bis[2-(hexyloxy)ethyl] ester (9CI) (CA INDEX NAME)



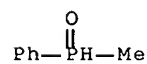
IT 118959-24-3P, 2,4,4-Trimethylpentyl(phenyl)phosphine oxide  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dialkylchloroacetamide)  
 RN 118959-24-3 HCAPLUS  
 CN Phosphine oxide, phenyl(2,4,4-trimethylpentyl)- (9CI) (CA INDEX NAME)



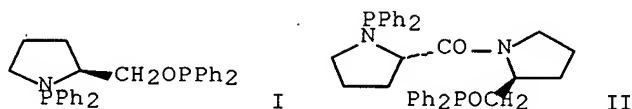
IT 2511-09-3P, Ethyl(phenyl)phosphinate 19315-13-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 2511-09-3 HCAPLUS  
 CN Phosphinic acid, P-phenyl-, ethyl ester (CA INDEX NAME)



RN 19315-13-0 HCAPLUS  
 CN Phosphine oxide, methylphenyl- (CA INDEX NAME)



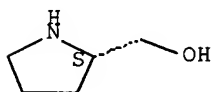
L47 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
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 DOCUMENT NUMBER: 108:150930  
 TITLE: Asymmetric hydrogenation catalyzed by  
 aminophosphine-phosphinite rhodium complexes derived  
 from natural amino alcohols  
 AUTHOR(S): Cesarotti, Edoardo; Chiesa, Anna; Prati, Laura;  
 Colombo, Lino  
 CORPORATE SOURCE: Dip. Chim. Inorg. Metallorg., Univ. Milano, Milan,  
 I-20133, Italy  
 SOURCE: Gazzetta Chimica Italiana (1987), 117(2), 129-33  
 CODEN: GCITA9; ISSN: 0016-5603  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 108:150930  
 GI



- AB Asym. catalytic hydrogenations with Rh complexes containing aminophosphine-phosphinite ligands, e.g. (S)-prolophos (I), have been studied in order to find the best conditions for complete conversion with the highest enantiomeric excess (e.e.). A new aminophosphine-phosphinite ligand, [(S,S)-biprolophos] (II), was prepared with an amido carbonyl group able to give a labile and competitive coordination to a third site of the metal. The stereodifferentiating ability of the Rh[(S,S)-biprolophos] complexes in asym. hydrogenation was dramatically affected by the solvent. A possible explanation of such an effect, based on IR spectroscopy in solution, is given. The Cu(I) complexes of I and a related ligand have been used as a source of chiral ligands in asym. hydrogenation of l-acetamidocinnamic acid with Rh complexes. The enantiodifferentiating ability of the Rh catalysts generated in situ by an exchange reaction with the Cu-phosphine complex allows the achievement of higher e.e.
- CC 34-2 (Amino Acids, Peptides, and Proteins)  
 Section cross-reference(s): 29
- IT 23356-96-9, (S)-Prolinol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amidation by, of benzyloxycarbonylproline)
- IT 1148-11-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amidation of, with prolinol)
- IT 2039-93-2,  $\alpha$ -Ethylstyrene 5469-45-4 52386-78-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (asym. hydrogenation of, in presence of chiral aminophosphine-phosphinite rhodium complexes)
- IT 1079-66-9, Chlorodiphenylphosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)

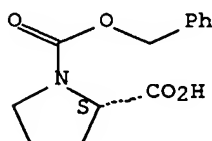
(condensation of, with proline derivative)  
 IT 113722-56-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and complexation of, with bis(cyclooctadiene)rhodium  
 cation)  
 IT 86925-98-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and deprotection of)  
 IT 23356-96-9, (S)-Prolinol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amidation by, of benzyloxycarbonylproline)  
 RN 23356-96-9 HCAPLUS  
 CN 2-Pyrrolidinemethanol, (2S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

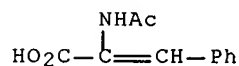


IT 1148-11-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amidation of, with prolinol)  
 RN 1148-11-4 HCAPLUS  
 CN 1,2-Pyrrolidinedicarboxylic acid, 1-(phenylmethyl) ester, (2S)- (CA INDEX NAME)

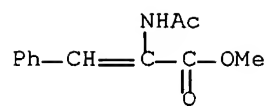
Absolute stereochemistry. Rotation (-).



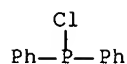
IT 5469-45-4 52386-78-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (asym. hydrogenation of, in presence of chiral aminophosphine-  
 phosphinite rhodium complexes)  
 RN 5469-45-4 HCAPLUS  
 CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl- (CA INDEX NAME)



RN 52386-78-4 HCAPLUS  
 CN 2-Propenoic acid, 2-(acetylamino)-3-phenyl-, methyl ester (CA INDEX NAME)

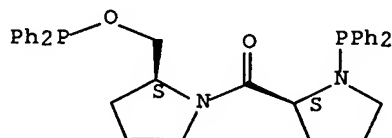


IT 1079-66-9, Chlorodiphenylphosphine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with proline derivative)  
 RN 1079-66-9 HCAPLUS  
 CN Phosphinous chloride, P,P-diphenyl- (CA INDEX NAME)



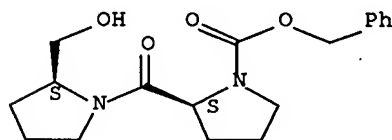
IT 113722-56-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and complexation of, with bis(cyclooctadiene)rhodium  
 cation)  
 RN 113722-56-8 HCAPLUS  
 CN Phosphinous acid, diphenyl-, [1-[[1-(diphenylphosphino)-2-  
 pyrrolidinyl]carbonyl]-2-pyrrolidinyl]methyl ester, [S-(R\*,R\*)]- (9CI)  
 (CA INDEX NAME)

Absolute stereochemistry.



IT 86925-98-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and deprotection of)  
 RN 86925-98-6 HCAPLUS  
 CN 1-Pyrrolidinecarboxylic acid, 2-[[1-(2S)-2-(hydroxymethyl)-1-  
 pyrrolidinyl]carbonyl]-, phenylmethyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986:479163 HCAPLUS Full-text

DOCUMENT NUMBER: 105:79163

TITLE: Mono-, di- and triphosphonic acids starting from phosphorus trihalides or phosphorous acid

INVENTOR(S): Kalman, Erika; Telegdi, Laszlo, Mrs.; Kraicsovics, Ferenc; Otvos, Laszlo; Sugar, Laszlo, Mrs.; Nagy, Janos; Timar, Ferenc, Mrs.; Bozoki, Gabor; Grosz, Miklos

PATENT ASSIGNEE(S): Magyar Tudomanyos Akademia, Kozponti Kemiai Kutato Intezet, Hung.; CAOLA Kozmetikai es Haztartasvegyipari Vallalat

SOURCE: Hung. Teljes, 20 pp.

CODEN: HUXXB

DOCUMENT TYPE: Patent

LANGUAGE: Hungarian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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HU 36825	A2	19851028	HU 1983-2992	19830826
HU 199488	B	19900228		

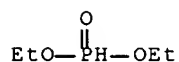
PRIORITY APPLN. INFO.: HU 1983-2992 19830826

AB The phosphonates RR1R2CPO3H2 [R = H, alkyl, aralkyl, aminoalkyl, aryl; R1 = H, alkyl, aryl, PO3H2; R2 = OH, NH2, HNCH2CH2NHCR3R4PO3H2, N(CR3R4PO3H2)2; R3 = H, alkyl; R4 = alkyl, aryl] are prepared as ion exchangers, water-treatment agents, pesticide intermediates, etc. (no data). Thus, a cooled mixture of 10.6 g BzH and 12 g PCl3 was treated with 30 g HOAc, to give after phase separation, 71% 1-hydroxy-1- phenylmethanephosphonic acid.

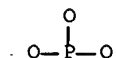
IC ICM C07F009-38

CC 29-7 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 5, 61ST phosphonate ion exchanger pesticide intermediate  
prepn; water treatment agent phosphonate prepnIT Water purification  
(ion exchange, phosphonates for, preparation of)IT 762-04-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and reaction with ethylenediamine)IT 1127-41-9P 2809-21-4P 4167-10-6P 6419-19-8P 13516-59-1P  
15049-85-1P 20188-02-7P 20536-09-8P 26245-90-9P 40391-99-9P  
91703-39-8P 103772-48-1PRL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as ion exchanger, water-treatment  
agent, and/or pesticide intermediate)IT 13598-36-2DP, derivs.  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as ion exchangers, water-treatment  
agents, and pesticide intermediates)IT 7789-60-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with acetonitrile and acetic acid)IT 64-19-7, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzaldehyde and phosphorus trichloride)

IT 107-95-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phosphoric acid and phosphorus oxychloride)  
 IT 64-17-5, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phosphorus trichloride)  
 IT 7719-12-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of, phosphonic acids from)  
 IT 762-04-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction with ethylenediamine)  
 RN 762-04-9 HCAPLUS  
 CN Phosphonic acid, diethyl ester (CA INDEX NAME)

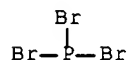


IT 13598-36-2DP, derivs.  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, as ion exchangers, water-treatment  
 agents, and pesticide intermediates)  
 RN 13598-36-2 HCAPLUS  
 CN Phosphonic acid (CA INDEX NAME)

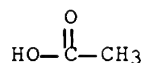


ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

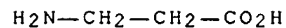
IT 7789-60-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with acetonitrile and acetic acid)  
 RN 7789-60-8 HCAPLUS  
 CN Phosphorous tribromide (CA INDEX NAME)



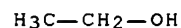
IT 64-19-7, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with benzaldehyde and phosphorus trichloride)  
 RN 64-19-7 HCAPLUS  
 CN Acetic acid (CA INDEX NAME)



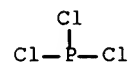
IT 107-95-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phosphoric acid and phosphorus oxychloride)  
 RN 107-95-9 HCAPLUS  
 CN  $\beta$ -Alanine (CA INDEX NAME)



IT 64-17-5, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phosphorus trichloride)  
 RN 64-17-5 HCAPLUS  
 CN Ethanol (CA INDEX NAME)



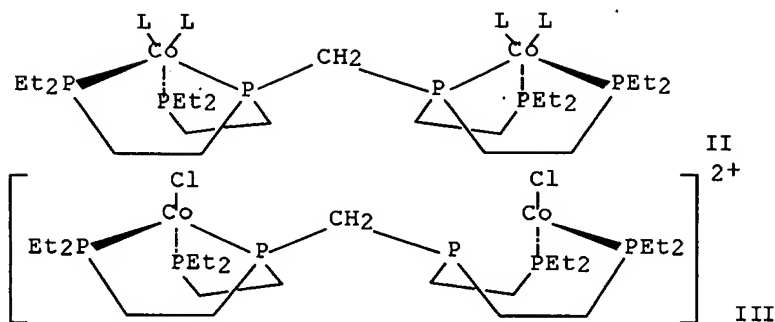
IT 7719-12-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of, phosphonic acids from)  
 RN 7719-12-2 HCAPLUS  
 CN Phosphorous trichloride (CA INDEX NAME)



L47 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1986:109912 HCAPLUS Full-text  
 DOCUMENT NUMBER: 104:109912  
 TITLE: A new type of transition-metal dimer based on a  
 hexaphosphine ligand system:  $\text{Co}_2(\text{CO})_4(\text{eHTP})_2^+$  (eHTP =  
 $(\text{Et}_2\text{PCH}_2\text{CH}_2)_2\text{PCH}_2\text{P}(\text{CH}_2\text{CH}_2\text{PEt}_2)_2$ )  
 AUTHOR(S): Askham, Fredric R.; Stanley, George G.; Marques,  
 Edward C.  
 CORPORATE SOURCE: Dep. Chem., Washington Univ., St. Louis, MO, 63130,  
 USA  
 SOURCE: Journal of the American Chemical Society (1985),  
 107(25), 7423-31  
 CODEN: JACSAT; ISSN: 0002-7863  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

OTHER SOURCE(S):  
GI

CASREACT 104:109912



AB P(SiMe<sub>3</sub>)<sub>3</sub>, prepared from P and Me<sub>3</sub>SiCl, was lithiated and treated with CH<sub>2</sub>Cl<sub>2</sub> to give [(Me<sub>3</sub>Si)<sub>3</sub>P]<sub>2</sub>CH<sub>2</sub>. The diphosphine reacted with MeOH to form (H<sub>3</sub>P)<sub>2</sub>CH<sub>2</sub>, which reacted with Et<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub> to give [(Et<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>P]<sub>2</sub>CH<sub>2</sub> (I). I and CoCl<sub>2</sub> gave the bis(cobalt) species II (L = Cl), which dissociated Cl to form either III.2Cl, or III.CoCl<sub>4</sub> in presence of CoCl<sub>2</sub>. II (L = Cl), III, or their mixture reacted with Co-H<sub>2</sub> to give II.CoCl<sub>4</sub> (L = CO), which formed II.2PF<sub>6</sub> on anion exchange. The x-ray crystal structure of II.2PF<sub>6</sub> (L = CO) showed the 2 Co atoms had distorted trigonal bipyramid geometry, with 1 CO ligand and 2 of the terminal P atoms of I in the equatorial plane. The EXAFS spectra of II (L = Cl) and III.CoCl<sub>4</sub> confirmed their dimeric, open structures.

CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 75

IT 15573-38-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and lithiation of)

IT 13652-21-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, with diphosphine)

IT 64007-66-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, with methanol and vinylphosphine)

IT 99035-49-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation, NMR spectrum, and complexation by, of cobalt)

IT 67-56-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with silylated diphosphine)

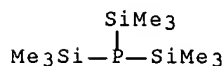
IT 686-69-1

RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with vinylmagnesium bromide)

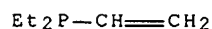
IT 15573-38-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and lithiation of)

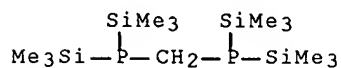
RN 15573-38-3 . HCAPLUS  
 CN Phosphine, tris(trimethylsilyl)- (CA INDEX NAME)



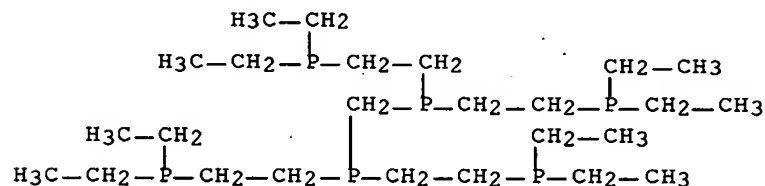
IT 13652-21-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with diphosphine)  
 RN 13652-21-6 HCAPLUS  
 CN Phosphine, ethenyldiethyl- (9CI) (CA INDEX NAME)



IT 64007-66-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with methanol and vinylphosphine)  
 RN 64007-66-5 HCAPLUS  
 CN 3,5-Diphospha-2,6-disilaheptane, 2,2,6,6-tetramethyl-3,5-  
 bis(trimethylsilyl)- (9CI) (CA INDEX NAME)



IT 99035-49-1P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)  
 ; PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, NMR spectrum, and complexation by, of cobalt)  
 RN 99035-49-1 HCAPLUS  
 CN 3,6,8,11-Tetraphosphatridecane, 6,8-bis[2-(diethylphosphino)ethyl]-3,11-  
 diethyl- (9CI) (CA INDEX NAME)

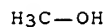


IT 67-56-1, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with silylated diphosphine)

RN 67-56-1 HCAPLUS

CN Methanol (CA INDEX NAME)



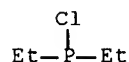
IT 686-69-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with vinylmagnesium bromide)

RN 686-69-1 HCAPLUS

CN Phosphinous chloride, P,P-diethyl- (CA INDEX NAME)



L47 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1984:153019 HCAPLUS Full-text

DOCUMENT NUMBER: 100:153019

TITLE: Carbonic anhydrase models. 5. Tris(4,5-di-n-propyl-2-imidazolyl)phosphine-zinc(2+) and bis(4,5-di-isopropyl-2-imidazolyl)-2-imidazolylphosphine-zinc(2+). Catalysts facilitating hydrogen carbonate .dblarw. carbon dioxide (HCO<sub>3</sub><sup>-</sup> .dblarw. CO<sub>2</sub>) interconversion

AUTHOR(S): Slebocka-Tilk, H.; Cocho, J. L.; Frackman, Z.; Brown, R. S.

CORPORATE SOURCE: Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.

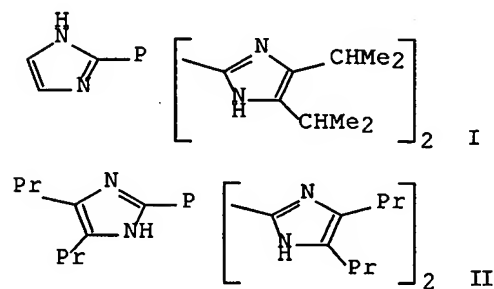
SOURCE: Journal of the American Chemical Society (1984), 106(8), 2421-31

CODEN: JACSAT; ISSN: 0002-7863

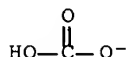
DOCUMENT TYPE: Journal

LANGUAGE: English

GI



- AB The title trisimidazolyolphosphines (I and II, resp.) were prepared and their Zn<sup>2+</sup> and Co<sup>2+</sup> complexes studied as active-site models for carbonic anhydrase. Both ligands bind Zn<sup>2+</sup> more strongly than they do Co<sup>2+</sup>. NMR studies show that II-ZnCl<sub>2</sub> exists as a 1:1 complex which undergoes dynamic exchange on the NMR time scale indicative of an imidazole debinding, tautomerization, and rebinding through the opposite N atom. I-Zn<sup>2+</sup>Cl<sub>2</sub><sup>-</sup> exists as a nonexchanging 1:1 complex, but if ClO<sub>4</sub><sup>-</sup> is used as a counterion, an exchange phenomenon is indicated. Whereas II-Co(II) shows some minor tendency to adopt a tetrahedral blue complex, I-Co(II) forms definite 4- or 5-coordinate chelates whose visible absorption spectra are dependent upon the presence of added anions. However, if ClO<sub>4</sub><sup>-</sup> or NO<sub>3</sub><sup>-</sup> are used as counterions, the spectrum of I-Co(II) shows little evidence for 4- or 5-coordination. Catalytically, both II-Zn<sup>2+</sup> and I-Zn<sup>2+</sup> enhance the rate of attainment of HCO<sub>3</sub><sup>-</sup> .dblharw. CO<sub>2</sub> equilibrium, with the latter being most active. Catalysis in both cases is inhibited by the presence of monovalent anions, and for both complexes, a saturation in the rate of HCO<sub>3</sub><sup>-</sup> .dblharw. CO<sub>2</sub> equilibration is seen as a function of increasing NaHCO<sub>3</sub> concentration Initial rate expts. were attempted, but are shown to be problematic under the conditions required for the study.
- CC 7-4 (Enzymes)
- IT 71-52-3, biological studies  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dehydration of, by imidazolyolphosphines as carbonic anhydrase models)
- IT 9001-03-0  
RL: PRP (Properties)  
(models for, imidazolyolphosphine-metal ion complexes as)
- IT 89210-53-7P  
RL: RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(preparation and deblocking of)
- IT 89210-50-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and reaction with cobalt or zinc, carbonic anhydrase in relation to)
- IT 89210-51-5P 89210-52-6P  
RL: RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with zinc, carbonic anhydrase in relation to)
- IT 7440-48-4DP, imidazolyolphosphine complexes 7440-66-6DP,  
imidazolyolphosphine complexes 74483-08-2DP, zinc complexes  
89210-50-4DP, cobalt and zinc complexes 89210-51-5DP,  
zinc complexes 89210-52-6DP, cobalt and zinc complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use as carbonic anhydrase models of)
- IT 71-52-3, biological studies  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(dehydration of, by imidazolyolphosphines as carbonic anhydrase models)
- RN 71-52-3 HCAPLUS
- CN Carbonate, hydrogen (8CI, 9CI) (CA INDEX NAME)

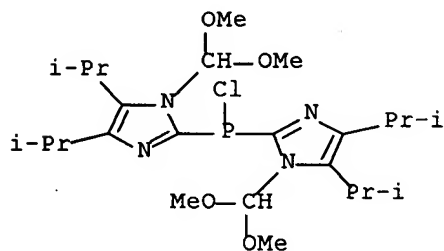


- IT 89210-53-7P  
RL: RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)

(preparation and deblocking of)

RN 89210-53-7 HCAPLUS

CN Phosphinous chloride, bis[1-(dimethoxymethyl)-4,5-bis(1-methylethyl)-1H-imidazol-2-yl]- (9CI) (CA INDEX NAME)



IT 89210-50-4P

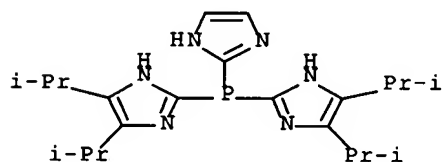
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation and reaction with cobalt or zinc, carbonic anhydrase in relation to)

RN 89210-50-4 HCAPLUS

CN 1H-Imidazole, 2,2'-(1H-imidazol-2-ylphosphinidene)bis[4,5-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



IT 89210-51-5P 89210-52-6P

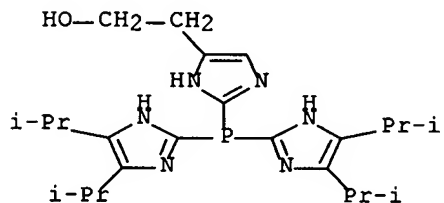
RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction with zinc, carbonic anhydrase in relation to)

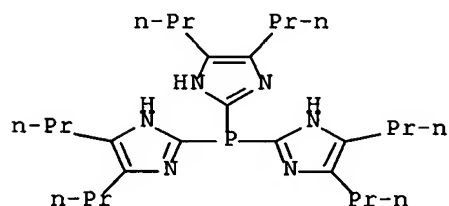
RN 89210-51-5 HCAPLUS

CN 1H-Imidazole-4-ethanol, 2-[bis[4,5-bis(1-methylethyl)-1H-imidazol-2-yl]phosphino]- (9CI) (CA INDEX NAME)



RN 89210-52-6 HCAPLUS

CN 1H-Imidazole, 2,2',2''-phosphinidynetris[4,5-dipropyl- (9CI) (CA INDEX NAME)

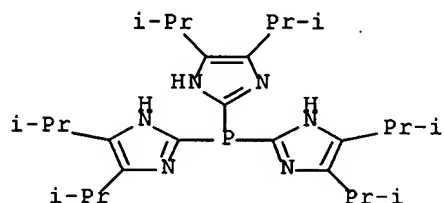


IT 74483-08-2DP, zinc complexes 89210-50-4DP, cobalt and zinc complexes 89210-51-5DP, zinc complexes 89210-52-6DP, cobalt and zinc complexes

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use as carbonic anhydrase models of)

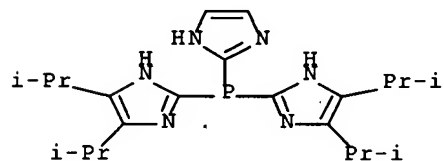
RN 74483-08-2 HCAPLUS

CN 1H-Imidazole, 2,2',2''-phosphinidynetris[4,5-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



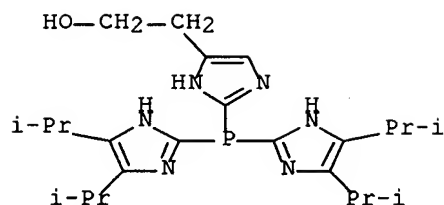
RN 89210-50-4 HCAPLUS

CN 1H-Imidazole, 2,2'-(1H-imidazol-2-ylphosphinidene)bis[4,5-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



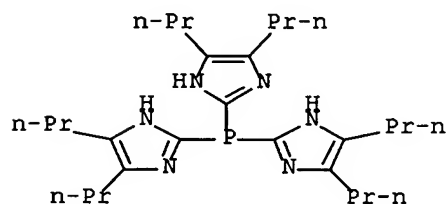
RN 89210-51-5 HCAPLUS

CN 1H-Imidazole-4-ethanol, 2-[bis[4,5-bis(1-methylethyl)-1H-imidazol-2-yl]phosphino]- (9CI) (CA INDEX NAME)



RN 89210-52-6 HCAPLUS

CN 1H-Imidazole, 2,2',2''-phosphinidynetris[4,5-dipropyl- (9CI) (CA INDEX NAME)



L47 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1983:595412 HCAPLUS Full-text

DOCUMENT NUMBER: 99:195412

TITLE: Phosphonamidate compounds

INVENTOR(S): Karanewski, Donald S.; Petrillo, Edward W.

PATENT ASSIGNEE(S): E. R. Squibb and Sons, Inc., USA

SOURCE: Eur. Pat. Appl., 166 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 71544	A1	19830209	EP 1982-401459	19820803
EP 71544	B1	19861008		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 58038294	A	19830305	JP 1982-136206	19820803
JP 03054116	B	19910819		
AT 22692	T	19861015	AT 1982-401459	19820803
CA 1276392	C	19901113	CA 1982-408601	19820803
PRIORITY APPLN. INFO.:			US 1981-289671	A 19810803
			EP 1982-401459	A 19820803

OTHER SOURCE(S): MARPAT 99:195412

AB RP(O)(OR1)NR2CHR3CO-X-OR4 [R = C1-10 alkyl, (CH2)mR5 [R5 = (un)substituted Ph, cycloalkyl, thienyl, furyl, pyridyl; m = 0-7], (CH2)nNH2 (n = 1-8); R1, R4 = H, alkali metal, alkyl, CH2Ph, CHPh2, CHR6O2CR7 [R6 = H, alkyl, cycloalkyl, Ph; R7 = H, alkyl, alkoxy, Ph; R6R7 = CH2CH2, (CH2)3, CH:CH, o-phenylene]; R2 = H, alkyl, cycloalkyl; R3 = H, alkyl, haloalkyl, (CH2)pR8 [R8 = Ph, C6H4OH-p, C6H3(OH)2-3,4, indol-3-yl, imidazol-4-yl, NH2, SH, guanidino, CONH2; p = 1-4];

X = (un)substituted proline or proline analog residue] were prepared as antihypertensives (no data) due to their ability to inhibit angiotensin-converting enzyme. Thus, Ph(CH<sub>2</sub>)<sub>4</sub>P(O)(COCH<sub>2</sub>Ph)OH was treated with Cl in CCl<sub>4</sub> and then condensed with H-Ala-Pro-OCH<sub>2</sub>Ph to give Ph(CH<sub>2</sub>)<sub>4</sub>P(O)(OCH<sub>2</sub>Ph)-Ala-Pro-OCH<sub>2</sub>Ph, which was deblocked by hydrogenolysis over Pd/C and then purified by an AG-50W-X8(Li+) ion-exchange column to give Ph(CH<sub>2</sub>)<sub>4</sub>P(O)(OH)-Ala-Pro-OH.2Li.

IC C07F009-65; C07F009-44; C07C103-52; A61K031-02  
 CC 34-3 (Amino Acids, Peptides, and Proteins)  
 Section cross-reference(s): 29, 63  
 IT 589-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (Grignard reaction of, with (chlorobutyl)benzene)  
 IT 83552-41-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (esterification of, with methanol)  
 IT 15761-39-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peptide coupling of, with glycine benzyl ester)  
 IT 4530-20-5 15761-38-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peptide coupling of, with proline benzyl ester)  
 IT 86552-61-6P 86552-77-4P 86552-79-6P  
 86552-83-2P 86564-67-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and deblocking of)  
 IT 6196-68-5P 34937-79-6P 86552-32-1P  
 86552-40-1P 86552-55-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and esterification of, with benzyl bromide)  
 IT 82180-51-6P 82180-52-7P 86552-36-5P 86552-43-4P 86552-46-7P  
 86552-48-9P 86552-51-4P 86552-59-2P 86552-67-2P  
 86552-69-4P 86552-72-9P 86552-75-2P 86552-96-7P  
 86552-98-9P 86553-02-8P 86553-06-2P 86564-66-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and hydrogenolysis of)  
 IT 85672-92-0P 86552-38-7P 86552-49-0P  
 86552-70-7P 86552-73-0P 86552-81-0P 86552-85-4P  
 86552-90-1P 86552-92-3P 86553-00-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and hydrolysis of)  
 IT 2389-45-9P 13734-36-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and peptide coupling of, with proline benzyl ester)  
 IT 41591-35-9P 59191-07-0P 64471-98-3P 76710-66-2P  
 86552-58-1P 86552-62-7P 86552-80-9P 86552-84-3P  
 86552-87-6P 86552-89-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and phosphinylation of)  
 IT 86553-01-7P 86553-05-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with chloromethyl pivalate)  
 IT 993-13-5P 1080-32-6P 86552-35-4P 86552-41-2P  
 86552-42-3P 86552-45-6P 86552-56-9P

86552-93-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dipeptide benzyl ester)

IT 86552-33-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dipeptide ester)

IT 86552-39-8P 86552-54-7P 86552-63-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and saponification of)

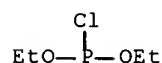
IT 4048-33-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phthalic anhydride)

IT 107-97-1 1155-64-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tert-butoxycarbonylation of)

IT 589-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (Grignard reaction of, with (chlorobutyl)benzene)

RN 589-57-1 HCAPLUS

CN Phosphorochloridous acid, diethyl ester (CA INDEX NAME)

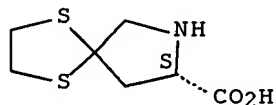


IT 83552-41-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (esterification of, with methanol)

RN 83552-41-4 HCAPLUS

CN 1,4-Dithia-7-azaspiro[4.4]nonane-8-carboxylic acid, hydrochloride, (S)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.



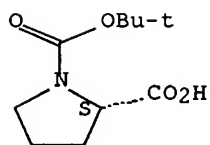
● HCl

IT 15761-39-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peptide coupling of, with glycine benzyl ester)

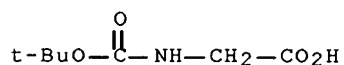
RN 15761-39-4 HCAPLUS

CN 1,2-Pyrrolidinedicarboxylic acid, 1-(1,1-dimethylethyl) ester, (2S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

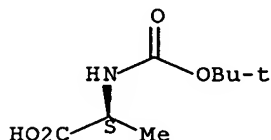


IT 4530-20-5 15761-38-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (peptide coupling of, with proline benzyl ester)  
 RN 4530-20-5 HCAPLUS  
 CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]- (CA INDEX NAME)



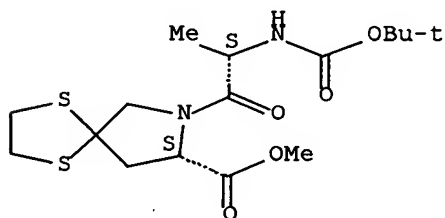
RN 15761-38-3 HCAPLUS  
 CN L-Alanine, N-[(1,1-dimethylethoxy)carbonyl]- (CA INDEX NAME)

Absolute stereochemistry.



IT 86552-61-6P 86552-77-4P 86552-79-6P  
 86552-83-2P 86564-67-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and deblocking of)  
 RN 86552-61-6 HCAPLUS  
 CN 1,4-Dithia-7-azaspiro[4.4]nonane-8-carboxylic acid, 7-[2-[(1,1-dimethylethoxy)carbonyl]amino]-1-oxopropyl]-, methyl ester, [S-(R\*,R\*)]-  
 (9CI) (CA INDEX NAME)

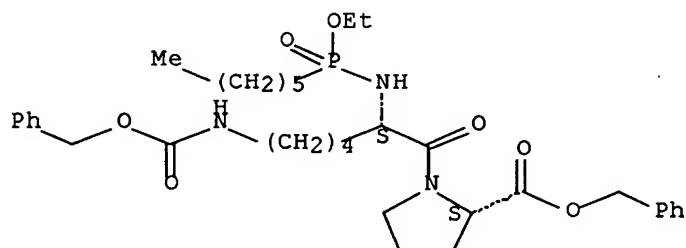
Absolute stereochemistry.



RN 86552-77-4 HCAPLUS

CN L-Proline, 1-[N2-(ethoxyhexylphosphinyl)-N6-[(phenylmethoxy)carbonyl]-L-lysyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

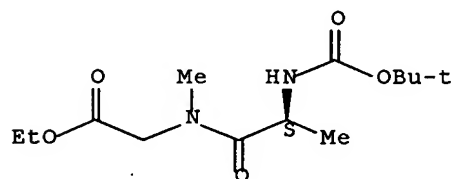
Absolute stereochemistry.



RN 86552-79-6 HCAPLUS

CN Glycine, N-[N-[(1,1-dimethylethoxy)carbonyl]-L-alanyl]-N-methyl-, ethyl ester (9CI) (CA INDEX NAME)

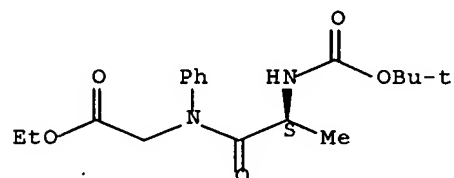
Absolute stereochemistry.



RN 86552-83-2 HCAPLUS

CN Glycine, N-[N-[(1,1-dimethylethoxy)carbonyl]-L-alanyl]-N-phenyl-, ethyl ester (9CI) (CA INDEX NAME)

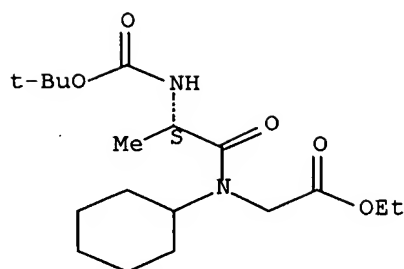
Absolute stereochemistry.



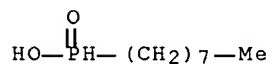
RN 86564-67-2 HCAPLUS

CN Glycine, N-cyclohexyl-N-[N-[(1,1-dimethylethoxy)carbonyl]-L-alanyl]-, ethyl ester (9CI) (CA INDEX NAME)

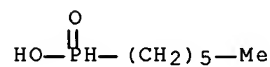
Absolute stereochemistry.



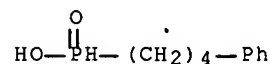
IT 6196-68-5P 34937-79-6P 86552-32-1P  
 86552-40-1P 86552-55-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and esterification of, with benzyl bromide)  
 RN 6196-68-5 HCAPLUS  
 CN Phosphinic acid, octyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



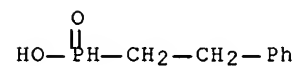
RN 34937-79-6 HCAPLUS  
 CN Phosphinic acid, hexyl- (6CI, 9CI) (CA INDEX NAME)



RN 86552-32-1 HCAPLUS  
 CN Phosphinic acid, (4-phenylbutyl)- (9CI) (CA INDEX NAME)

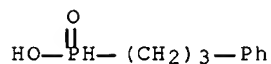


RN 86552-40-1 HCAPLUS  
 CN Phosphinic acid, (2-phenylethyl)- (9CI) (CA INDEX NAME)



RN 86552-55-8 HCAPLUS

CN Phosphinic acid, (3-phenylpropyl)- (9CI) (CA INDEX NAME)



IT 86552-59-2P 86552-72-9P 86552-96-7P

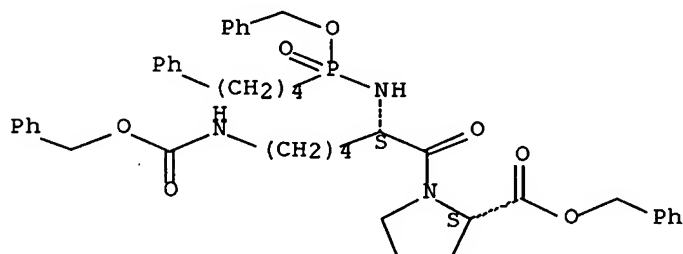
86553-06-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and hydrogenolysis of)

RN 86552-59-2 HCAPLUS

CN L-Proline, 1-[N2-[(4-phenylbutyl)(phenylmethoxy)phosphinyl]-N6-  
[(phenylmethoxy)carbonyl]-L-lysyl]-, phenylmethyl ester (9CI) (CA INDEX  
NAME)

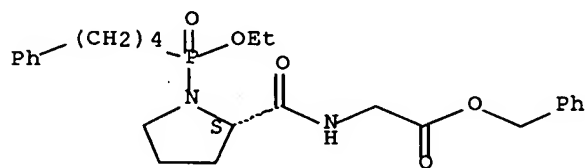
Absolute stereochemistry.



RN 86552-72-9 HCAPLUS

CN Glycine, N-[1-[ethoxy(4-phenylbutyl)phosphinyl]-L-prolyl]-, phenylmethyl  
ester (9CI) (CA INDEX NAME)

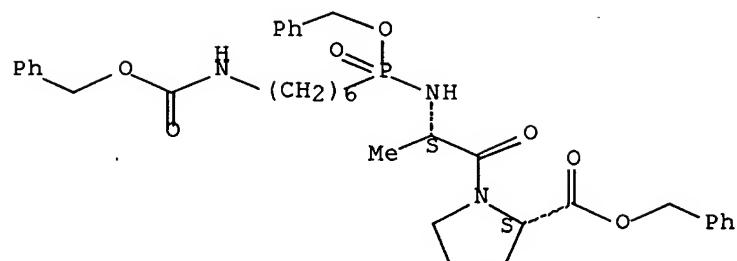
Absolute stereochemistry.



RN 86552-96-7 HCAPLUS

CN L-Proline, 1-[N-[(phenylmethoxy)[6-[[[(phenylmethoxy)carbonyl]amino]hexyl]p  
hosphinyl]-L-alanyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

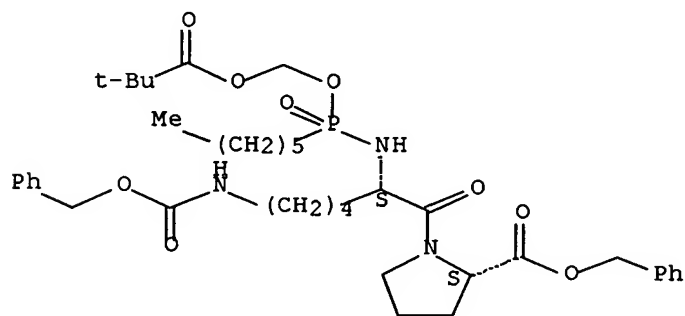
Absolute stereochemistry.



RN 86553-06-2 HCAPLUS

CN L-Proline, 1-[N2-[[[(2,2-dimethyl-1-oxopropoxy)methoxy]hexylphosphinyl]-N6-[(phenylmethoxy)carbonyl]-L-lysyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 85672-92-0P 86552-38-7P 86552-49-0P

86552-70-7P 86552-73-0P 86552-90-1P

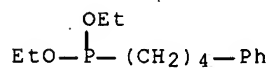
RL: RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(preparation and hydrolysis of)

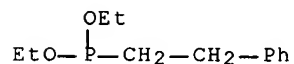
RN 85672-92-0 HCAPLUS

CN Phosphonous acid, (4-phenylbutyl)-, diethyl ester (9CI) (CA INDEX NAME)



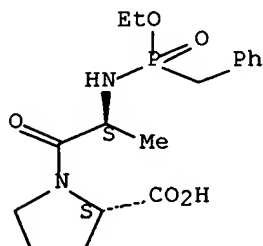
RN 86552-38-7 HCAPLUS

CN Phosphonous acid, (2-phenylethyl)-, diethyl ester (9CI) (CA INDEX NAME)



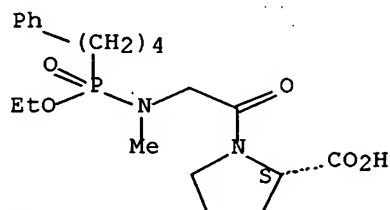
RN 86552-49-0 HCAPLUS  
 CN L-Proline, 1-[N-[ethoxy(phenylmethyl)phosphinyl]-L-alanyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



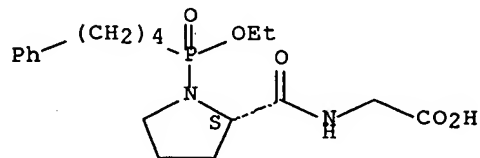
RN 86552-70-7 HCAPLUS  
 CN L-Proline, 1-[N-[ethoxy(4-phenylbutyl)phosphinyl]-N-methylglycyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



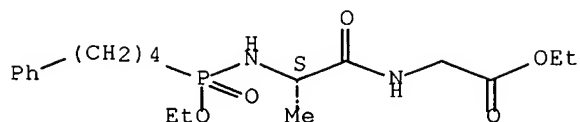
RN 86552-73-0 HCAPLUS  
 CN Glycine, N-[1-[ethoxy(4-phenylbutyl)phosphinyl]-L-prolyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 86552-90-1 HCAPLUS  
 CN Glycine, N-[N-[ethoxy(4-phenylbutyl)phosphinyl]-L-alanyl]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 2389-45-9P 13734-36-6P

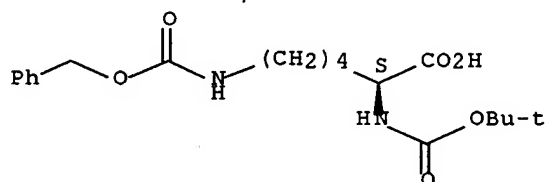
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and peptide coupling of, with proline benzyl ester)

RN 2389-45-9 HCAPLUS

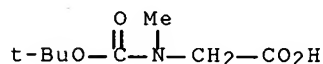
CN L-Lysine, N2-[(1,1-dimethylethoxy)carbonyl]-N6-[(phenylmethoxy)carbonyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 13734-36-6 HCAPLUS

CN Glycine, N-[(1,1-dimethylethoxy)carbonyl]-N-methyl- (CA INDEX NAME)



IT 64471-98-3P 86552-58-1P 86552-84-3P

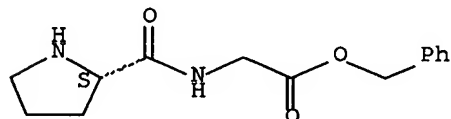
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and phosphinylation of)

RN 64471-98-3 HCAPLUS

CN Glycine, L-prolyl-, phenylmethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

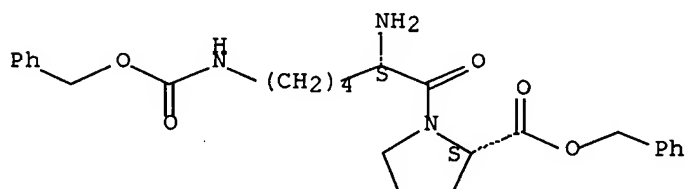


● HCl

RN 86552-58-1 HCAPLUS

CN L-Proline, 1-[N6-[(phenylmethoxy)carbonyl]-L-lysyl]-, phenylmethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

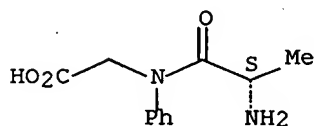


● HCl

RN 86552-84-3 HCAPLUS

CN Glycine, N-L-alanyl-N-phenyl-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

IT 86553-05-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

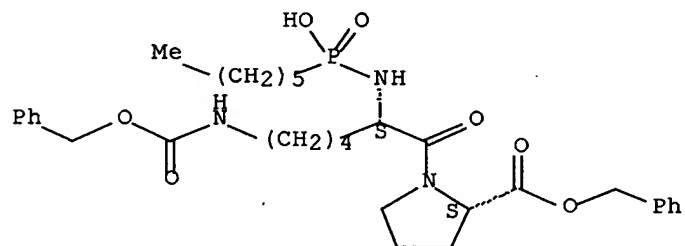
(Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with chloromethyl pivalate)

RN 86553-05-1 HCAPLUS

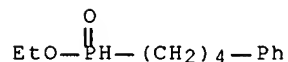
CN L-Proline, 1-[N2-(hexylhydroxyphosphinyl)-N6-[(phenylmethoxy)carbonyl]-L-lysyl]-, phenylmethyl ester, monopotassium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

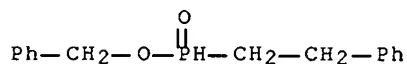


● K

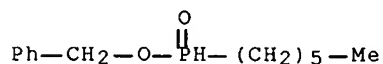
IT 86552-35-4P 86552-41-2P 86552-42-3P  
 86552-45-6P 86552-56-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dipeptide benzyl ester)  
 RN 86552-35-4 HCAPLUS  
 CN Phosphinic acid, (4-phenylbutyl)-, ethyl ester (9CI) (CA INDEX NAME)



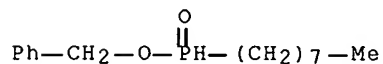
RN 86552-41-2 HCAPLUS  
 CN Phosphinic acid, (2-phenylethyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



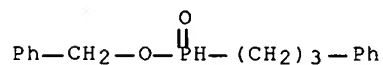
RN 86552-42-3 HCAPLUS  
 CN Phosphinic acid, hexyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



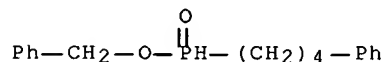
RN 86552-45-6 HCAPLUS  
 CN Phosphinic acid, octyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



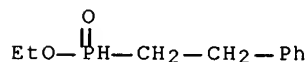
RN 86552-56-9 HCAPLUS  
 CN Phosphinic acid, (3-phenylpropyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



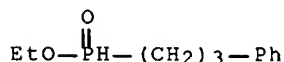
IT 86552-33-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dipeptide ester)  
 RN 86552-33-2 HCAPLUS  
 CN Phosphinic acid, (4-phenylbutyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



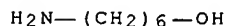
IT 86552-39-8P 86552-54-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and saponification of)  
 RN 86552-39-8 HCAPLUS  
 CN Phosphinic acid, P-(2-phenylethyl)-, ethyl ester (CA INDEX NAME)



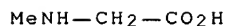
RN 86552-54-7 HCAPLUS  
 CN Phosphinic acid, (3-phenylpropyl)-, ethyl ester (9CI) (CA INDEX NAME)



IT 4048-33-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phthalic anhydride)  
 RN 4048-33-3 HCAPLUS  
 CN 1-Hexanol, 6-amino- (CA INDEX NAME)



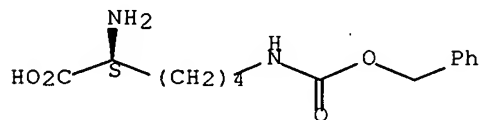
IT 107-97-1 1155-64-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (tert-butoxycarbonylation of)  
 RN 107-97-1 HCAPLUS  
 CN Glycine, N-methyl- (CA INDEX NAME)



RN 1155-64-2 HCAPLUS

CN L-Lysine, N6-[(phenylmethoxy)carbonyl]- (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1983:523064 HCAPLUS Full-text

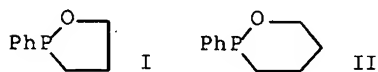
DOCUMENT NUMBER: 99:123064

TITLE: New phosphorus-containing polymers including poly(phosphine oxide)s and polyphosphines  
 AUTHOR(S): Kobayashi, Shiro; Suzuki, Masato; Saegusa, Takeo  
 CORPORATE SOURCE: Fac. Eng., Kyoto Univ., Kyoto, 606, Japan  
 SOURCE: Proc. IUPAC, I. U. P. A. C., Macromol. Symp., 28th (1982), 174. Int. Union Pure Appl. Chem.: Oxford, UK.  
 CODEN: 50DXAF

DOCUMENT TYPE: Conference

LANGUAGE: English

GI



AB Monomer I [16324-17-7] and monomer II [87079-91-2] were prepared by the reaction of  $\text{PhPCl}_2$  [644-97-3] with  $\text{HO}(\text{CH}_2)_3\text{Cl}$  [627-30-5] and  $\text{HO}(\text{CH}_2)_4\text{Cl}$  [928-51-8], resp. The cationic polymerization of I and II gave polymers  $[\text{P}(\text{O})\text{Ph}(\text{CH}_2)_m]_n$  ( $m = 3$  or  $4$ ) which were treated with  $\text{ClCOCOC}_2\text{H}_5$  and  $\text{iso-Bu}_2\text{AlH}$  to prepare polymer  $[\text{PPh}(\text{CH}_2)_m]_n$  ( $m = 3$  or  $4$ ). The graft polymerization of I with chloromethylated polystyrene gave a graft copolymer which is useful as a chelating agent for  $\text{UO}_2^{2+}$ .

CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 28

ST oxaphospholane prepn polymn; oxaphosphorinane prepn polymn; phospholane oxa prepn polymn; phosphorinane oxa prepn polymn; polymn oxaphospholane oxaphosphorinane; styrene oxaphospholane graft copolymer; cation exchanger oxaphospholane copolymer

IT Cation exchangers

(phenyloxaphospholane-grafted chloromethylated divinylbenzene-styrene copolymers, for uranyl ions)

IT Polymerization

(cationic, of phenyloxaphospholane and phenyloxaphosphorinane)

IT 9003-70-7D, chloromethylated, polymer with 2-phenyl-1,2-oxaphospholane  
16324-17-7D, polymers with chloromethylated divinylbenzene-styrene copolymer  
RL: USES (Uses)  
(graft, cation exchangers)

IT 78869-64-4P 78869-65-5P 87091-75-6P 87092-03-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reduction of)

IT 16324-17-7P 84515-78-6P 87079-91-2P  
87111-73-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 627-30-5 928-51-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dichlorophenylphosphine)

IT 644-97-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with hydroxyalkyl chlorides)

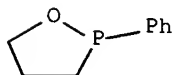
IT 78869-64-4P 87092-03-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reduction of)

RN 78869-64-4 HCAPLUS

CN 1,2-Oxaphospholane, 2-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 16324-17-7  
CMF C9 H11 O P

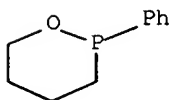


RN 87092-03-3 HCAPLUS

CN 1,2-Oxaphosphorinane, 2-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87079-91-2  
CMF C10 H13 O P



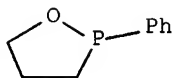
IT 16324-17-7P 84515-78-6P 87079-91-2P

87111-73-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

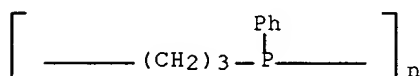
RN 16324-17-7 HCAPLUS

CN 1,2-Oxaphospholane, 2-phenyl- (8CI, 9CI) (CA INDEX NAME)



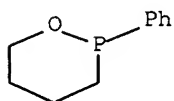
RN 84515-78-6 HCAPLUS

CN Poly[(phenylphosphinidene)-1,3-propanediyl] (9CI) (CA INDEX NAME)



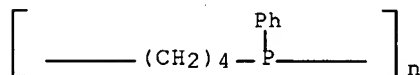
RN 87079-91-2 HCAPLUS

CN 1,2-Oxaphosphorinane, 2-phenyl- (9CI) (CA INDEX NAME)



RN 87111-73-7 HCAPLUS

CN Poly[(phenylphosphinidene)-1,4-butanediyl] (9CI) (CA INDEX NAME)

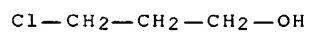


IT 627-30-5 928-51-8

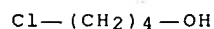
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with dichlorophenylphosphine)

RN 627-30-5 HCAPLUS

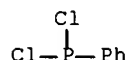
CN 1-Propanol, 3-chloro- (CA INDEX NAME)



RN 928-51-8 HCAPLUS  
 CN 1-Butanol, 4-chloro- (CA INDEX NAME)



IT 644-97-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with hydroxyalkyl chlorides)  
 RN 644-97-3 HCAPLUS  
 CN Phosphonous dichloride, P-phenyl- (CA INDEX NAME)



L47 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1983:126276 HCAPLUS Full-text

DOCUMENT NUMBER: 98:126276

TITLE: Synthesis and rearrangement reactions of  
 o-functionalized phenyllithium and phenylsodium  
 derivatives of Group IVB and VB elements

AUTHOR(S): Heinicke, J.; Nietzschmann, E.; Tzschach, A.

CORPORATE SOURCE: Sekt. Chem., Martin-Luther-Univ., Halle/Saale, Ger.  
 Dem. Rep.

SOURCE: Journal of Organometallic Chemistry (1983), 243(1),  
 1-8

CODEN: JORCAI; ISSN: 0022-328X

DOCUMENT TYPE: Journal

LANGUAGE: German

OTHER SOURCE(S): CASREACT 98:126276

AB Whereas o-substituted bromobenzene derivs. o-BrC<sub>6</sub>H<sub>4</sub>XER<sub>n</sub> (X = O, S; ER<sub>n</sub> = SiMe<sub>3</sub>). and BuLi undergo metal halogen exchange followed by silyl-X → C rearrangement, the corresponding compds. of P, As or Sn are split at the E-X bond. o-Metal derivs. o-MlC<sub>6</sub>H<sub>4</sub>XER<sub>n</sub> (X = O, NMe; E = P, As, Sn) of these elements may be generated, however, by direct reaction with Ml (Na, Li). They are unstable and furnish o-hydroxy- and o-aminophenyl element(IV, V) derivs. via an intramol. anionic rearrangement.

CC 29-8 (Organometallic and Organometalloidal Compounds)

IT 17582-53-5P 50420-43-4P 63059-00-7P

RL: PRP (Properties); FORM (Formation, nonpreparative); PREP  
 (Preparation)

(formation and NMR of)

IT 84998-66-3P

RL: RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)

(formation and reaction of, with chlorotrimethylsilane)

IT 84998-56-1P 84998-57-2P 84998-65-2P

RL: RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)

(formation and reactions of)

IT 3121-75-3P 84998-46-9P 84998-47-0P 84998-48-1P  
 84998-49-2P 84998-50-5P 84998-51-6P  
 84998-52-7P 84998-53-8P 84998-54-9P 84998-63-0P  
 84998-67-4P 84998-68-5P 85008-32-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

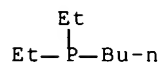
IT 822-39-9 7719-12-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with (trimethylsilylphenoxy)lithium)

IT 686-69-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with trimethylsilylphenylthiolithium)

IT 50420-43-4P 63059-00-7P  
 RL: PRP (Properties); FORM (Formation, nonpreparative); PREP  
 (Preparation)  
 (formation and NMR of)

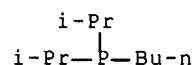
RN 50420-43-4 HCAPLUS

CN Phosphine, butyldiethyl- (6CI, 7CI, 9CI) (CA INDEX NAME)



RN 63059-00-7 HCAPLUS

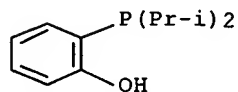
CN Phosphine, butylbis(1-methylethyl)- (9CI) (CA INDEX NAME)



IT 84998-66-3P  
 RL: RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (formation and reaction of, with chlorotrimethylsilane)

RN 84998-66-3 HCAPLUS

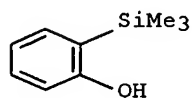
CN Phenol, 2-[bis(1-methylethyl)phosphino]-, lithium salt (9CI) (CA INDEX NAME)



IT 84998-56-1P 84998-65-2P  
 RL: RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (formation and reactions of)

RN 84998-56-1 HCAPLUS

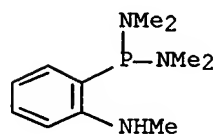
CN Phenol, 2-(trimethylsilyl)-, lithium salt (9CI) (CA INDEX NAME)



● Li

RN 84998-65-2 HCAPLUS

CN Phosphonous diamide, N,N,N',N'-tetramethyl-P-[2-(methylamino)phenyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

IT 84998-46-9P 84998-47-0P 84998-48-1P

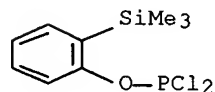
84998-49-2P 84998-50-5P 84998-51-6P

84998-52-7P 84998-68-5P 85008-32-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

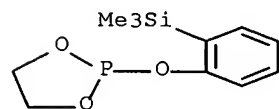
RN 84998-46-9 HCAPLUS

CN Phosphorodichlorous acid, 2-(trimethylsilyl)phenyl ester (9CI) (CA INDEX NAME)



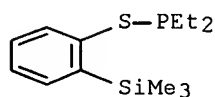
RN 84998-47-0 HCAPLUS

CN 1,3,2-Dioxaphospholane, 2-[2-(trimethylsilyl)phenoxy]- (9CI) (CA INDEX NAME)



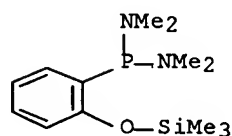
RN 84998-48-1 HCAPLUS

CN Phosphinothious acid, diethyl-, 2-(trimethylsilyl)phenyl ester (9CI) (CA INDEX NAME)



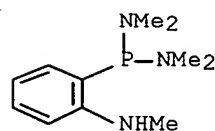
RN 84998-49-2 HCAPLUS

CN Phosphonous diamide, N,N,N',N'-tetramethyl-P-[2-[(trimethylsilyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



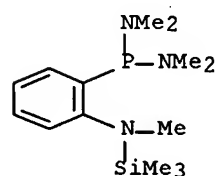
RN 84998-50-5 HCAPLUS

CN Phosphonous diamide, N,N,N',N'-tetramethyl-P-[2-(methylamino)phenyl]- (9CI) (CA INDEX NAME)



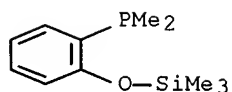
RN 84998-51-6 HCAPLUS

CN Phosphonous diamide, N,N,N',N'-tetramethyl-P-[2-[methyl(trimethylsilyl)amino]phenyl]- (9CI) (CA INDEX NAME)



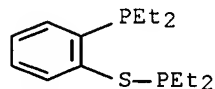
RN 84998-52-7 HCAPLUS

CN Phosphine, dimethyl[2-[(trimethylsilyl)oxy]phenyl]- (9CI) (CA INDEX NAME)



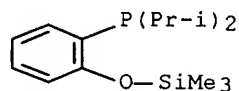
RN 84998-68-5 HCAPLUS

CN Phosphinothious acid, diethyl-, 2-(diethylphosphino)phenyl ester (9CI)  
(CA INDEX NAME)



RN 85008-32-8 HCAPLUS

CN Phosphine, bis(1-methylethyl)[2-[(trimethylsilyl)oxy]phenyl]- (9CI) (CA INDEX NAME)

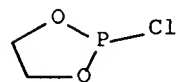


IT 822-39-9 7719-12-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (trimethylsilylphenoxy)lithium)

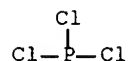
RN 822-39-9 HCAPLUS

CN 1,3,2-Dioxaphospholane, 2-chloro- (CA INDEX NAME)



RN 7719-12-2 HCAPLUS

CN Phosphorous trichloride (CA INDEX NAME)

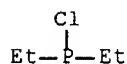


IT 686-69-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with trimethylsilylphenylthiolithium)

RN 686-69-1 HCAPLUS

CN Phosphinous chloride, P,P-diethyl- (CA INDEX NAME)



L47 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1980:614628 HCAPLUS Full-text

DOCUMENT NUMBER: 93:214628

TITLE: Optical resolution of the antitumor agents  
isophosphamide and triphosphamide by means of  
diastereomeric platinum(II) complexes

AUTHOR(S): Wroblewski, A. E.; Socol, Steven M.; Okruszek, A.;  
Verkade, J. G.

CORPORATE SOURCE: Dep. Chem., Iowa State Univ., Ames, IA, 50011, USA

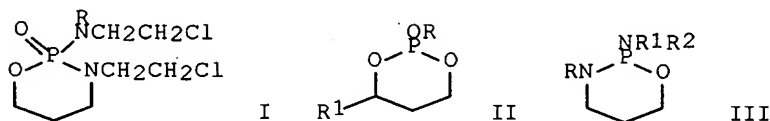
SOURCE: Inorganic Chemistry (1980), 19(12), 3713-19

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The optical resolution of the antitumor drugs (I) ( $R = \text{H}, \text{CH}_2\text{CH}_2\text{Cl}$ ) by diastereomeric Pt(II) complexes of the type  $\text{cis-I2Pt}[(S)-(+)-L]L'$  and  $\text{cis-I2Pt}[(S)-(+)-L]L''$  is reported, where L, the resolving agent, is an enantiomer of II ( $R = \text{CHPh}(\text{CO}_2\text{Me}), R_1 = \text{H}$ ) derived from com. available (S)-(+)-mandelic acid and L' and L'' = III, where  $R = R_1 = R_2 = \text{ClCH}_2\text{CH}_2$  and  $R = R_1 = \text{ClCH}_2\text{CH}_2$ ,  $R_2 = \text{H}$ , resp. The diastereomeric complexes are formed in the equilibration of  $\text{cis-I2Pt}[(S)-(+)-L]_2$  with  $\text{cis-I2PtL}'_2$  or  $\text{cis-I2PtL}''_2$  which is catalyzed by a very small excess of (S)-(+)-L. Destruction of the diastereomers with excess  $\text{CN}^-$  and oxidation of L' and L'' by  $\text{N}_2\text{O}_4$  and  $\text{O}_3$ , resp., gave the enantiomers of I in overall yields of about 7% and better than 95% optical purity in the 11-step procedures. Although diastereomeric complexes of the types  $\text{trans-Cl}_2\text{PtL}'[(-)-\text{PhCHMeNH}_2]$ ,  $\text{cis-Cl}_2\text{PtL}'\text{Q}$  ( $\text{Q} = \text{II}, R = R_1 = \text{Me}$ ) and  $\text{cis-Cl}_2\text{PtL}''[(+)-\text{PhMeCHNHP}(\text{OMe})_2]$  could not be separated, those of  $\text{cis-Cl}_2\text{PtL}'[(S)-(+)-L]$  and  $\text{cis-I2PtL}'\text{Q}$  are separable.

CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 1

IT 72316-67-7P 72346-74-8P 75046-02-5P 75109-26-1P 75109-27-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

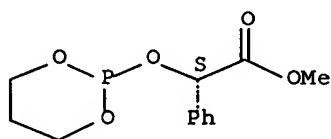
(preparation and ligand exchange reactions of, with platinum  
complex of Me  $\alpha$ -(1,3,2-dioxaphosphorinan-2-yloxy)benzeneacetate)

IT 72316-69-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

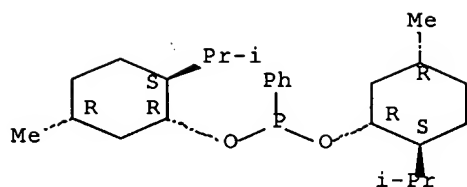
- (Reactant or reagent)  
(preparation and ligand exchange reactions of, with platinum complexes containing 2-amino-1,3,2-oxazaphosphorinane derivative ligand)
- IT 72316-68-8P 75045-96-4P 75109-25-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with cyanide ion)
- IT 75045-93-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use as ligand in platinum complex in resolution of isophosphamide and triphosphamide antitumor agent)
- IT 58359-50-5P 75045-94-2P 75045-97-5P 75045-98-6P  
75045-99-7P 75046-00-3P 75046-03-6P 75046-07-0P 75046-08-1P  
75059-71-1P 75082-09-6P 75082-10-9P 75082-15-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 21210-43-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with 2-chloro-1,3,2-dioxaphosphorinane)
- IT 6362-89-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Me mandelate)
- IT 3743-07-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with  $\alpha$ -methylbenzylamine)
- IT 75045-93-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and use as ligand in platinum complex in resolution of isophosphamide and triphosphamide antitumor agent)
- RN 75045-93-1 HCAPLUS
- CN Benzeneacetic acid,  $\alpha$ -(1,3,2-dioxaphosphorinan-2-yloxy)-, methyl ester, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- IT 58359-50-5P 75045-94-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- RN 58359-50-5 HCAPLUS
- CN Phosphonous acid, phenyl-, bis[(1R,2S,5R)-5-methyl-2-(1-methylethyl)cyclohexyl] ester (9CI) (CA INDEX NAME)

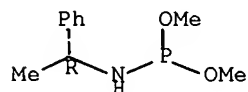
Absolute stereochemistry.



RN 75045-94-2 HCAPLUS

CN Phosphoramidous acid, (1-phenylethyl)-, dimethyl ester, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



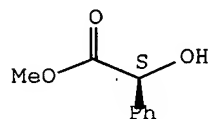
IT 21210-43-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with 2-chloro-1,3,2-dioxaphosphorinane)

RN 21210-43-5 HCAPLUS

CN Benzeneacetic acid,  $\alpha$ -hydroxy-, methyl ester, ( $\alpha$ S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

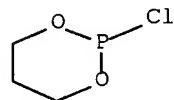


IT 6362-89-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Me mandelate)

RN 6362-89-6 HCAPLUS

CN 1,3,2-Dioxaphosphorinane, 2-chloro- (9CI) (CA INDEX NAME)

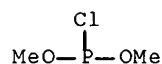


IT 3743-07-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with  $\alpha$ -methylbenzylamine)

RN 3743-07-5 HCAPLUS

CN Phosphorochloridous acid, dimethyl ester (8CI, 9CI) (CA INDEX NAME)



L47 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1977:468492 HCAPLUS Full-text

DOCUMENT NUMBER: 87:68492

TITLE: Pharmaceutical cis-1,2-epoxypropylphosphonic acid derivatives

INVENTOR(S): De Lassauniere, Chabrier; Nguyen Thanh Thuong; Warolin, Christian Jean Marie

PATENT ASSIGNEE(S): Agence Nationale de Valorisation de la Recherche, Fr.; Societe d'Etudes et d'Applications Biologiques (SAB)

SOURCE: Ger. Offen., 66 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

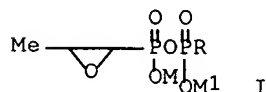
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2632136	A1	19770224	DE 1976-2632136	19760716
GB 1566252	A	19800430	GB 1975-29918	19750716
FR 2317936	A1	19770211	FR 1976-20889	19760708
JP 52042821	A	19770404	JP 1976-84887	19760716
US 4129660	A	19781212	US 1977-801921	19770531
PRIORITY APPLN. INFO.:			GB 1975-29918	A 19750716
			GB 1975-29919	A 19750716
			GB 1975-35297	A 19750827
			US 1976-704629	A3 19760712

OTHER SOURCE(S): MARPAT 87:68492

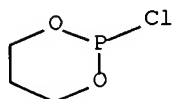
GI



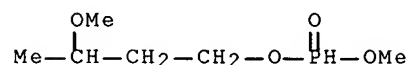
AB Epoxypropylphosphonic acids I (R = Me, Ph, oxiranylmethyl, CH<sub>2</sub>Ph, CH<sub>2</sub>CO<sub>2</sub>Me, OMe, OCH<sub>2</sub>CH<sub>2</sub>CHMeOMe, OPr, OEt, OCH<sub>2</sub>CH<sub>2</sub>OMe, OCH<sub>2</sub>CO<sub>2</sub>Me, OCH<sub>2</sub>CH<sub>2</sub>CN, M = M1 = Na; R = OMe, MM1 = Ca; R = OCH<sub>2</sub>CH<sub>2</sub>N+Me<sub>3</sub>, O(CH<sub>2</sub>)<sub>3</sub>N+H<sub>2</sub>CHMe<sub>2</sub>, O(CH<sub>2</sub>)<sub>3</sub>N+Me<sub>3</sub>, M = Na, M1 = neg. charge) were prepared Thus, Me<sub>2</sub>NP(O)(OMe)ONMe<sub>4</sub> was treated with MeCH:CHP(O)(OH)<sub>2</sub> and CaCl<sub>2</sub> to give 79% MeCH:CHP(O)(O-)OP(O)(O-)OMe Ca<sup>2+</sup>, which was oxidized with H<sub>2</sub>O<sub>2</sub> to give 58% I (R = OMe, MM1 = Ca, II). II at 2 mg/day for 5 days protected mice against Staphylococcus aureus strain 124 infection and at 1 mg/day for 5 days was effective against Schistosoma mansoni in mice.

IC C07F009-38

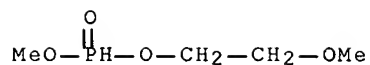
CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 63  
 IT 6362-89-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (alkylation of)  
 IT 63726-28-3P 63726-31-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and ion exchange of)  
 IT 52480-18-9P 54771-53-8P 63581-54-4P  
 63581-60-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dimethylamine)  
 IT 109-86-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, phosphorus trichloride)  
 IT 7719-12-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methoxybutanol)  
 IT 67-56-1, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phenylphosphonic acid dichloride)  
 IT 2517-43-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phosphorus trichloride)  
 IT 6362-89-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (alkylation of)  
 RN 6362-89-6 HCAPLUS  
 CN 1,3,2-Dioxaphosphorinane, 2-chloro- (9CI) (CA INDEX NAME)



IT 52480-18-9P 54771-53-8P 63581-54-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with dimethylamine)  
 RN 52480-18-9 HCAPLUS  
 CN Phosphonic acid, 3-methoxybutyl methyl ester (9CI) (CA INDEX NAME)

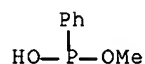


RN 54771-53-8 HCAPLUS  
 CN Phosphonic acid, 2-methoxyethyl methyl ester (9CI) (CA INDEX NAME)



RN 63581-54-4 HCAPLUS

CN Phosphonous acid, phenyl-, monomethyl ester (9CI) (CA INDEX NAME)

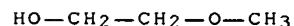


IT 109-86-4

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, phosphorus trichloride)

RN 109-86-4 HCAPLUS

CN Ethanol, 2-methoxy- (CA INDEX NAME)

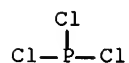


IT 7719-12-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methoxybutanol)

RN 7719-12-2 HCAPLUS

CN Phosphorous trichloride (CA INDEX NAME)

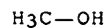


IT 67-56-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with phenylphosphonic acid dichloride)

RN 67-56-1 HCAPLUS

CN Methanol (CA INDEX NAME)

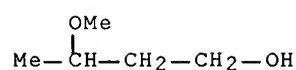


IT 2517-43-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with phosphorus trichloride)

RN 2517-43-3 HCAPLUS

CN 1-Butanol, 3-methoxy- (CA INDEX NAME)



=> d his nofil

(FILE 'HOME' ENTERED AT 15:40:04 ON 24 OCT 2007)

FILE 'REGISTRY' ENTERED AT 15:40:14 ON 24 OCT 2007

L1 STR  
L2 50 SEA SSS SAM L1  
L3 4281 SEA SSS FUL L1

FILE 'CAPLUS' ENTERED AT 15:41:41 ON 24 OCT 2007

L4 11662 SEA ABB=ON PLU=ON L3(L) RACT+NT/RL  
E US2006-584148/APPS  
L5 1 SEA ABB=ON PLU=ON US2006-584148/AP  
SEL RN

FILE 'REGISTRY' ENTERED AT 15:42:49 ON 24 OCT 2007

L6 55 SEA ABB=ON PLU=ON (100-47-0/BI OR 100-66-3/BI OR 104-76-7/BI  
OR 107-12-0/BI OR 108-20-3/BI OR 108-32-7/BI OR 108-87-2/BI OR  
108-88-3/BI OR 108-90-7/BI OR 108-95-2/BI OR 108609-96-7/BI OR  
109-66-0/BI OR 109-99-9/BI OR 110-19-0/BI OR 110-54-3/BI OR  
110-82-7/BI OR 120-80-9/BI OR 121627-17-6/BI OR 123-31-9/BI OR  
123-91-1/BI OR 126-33-0/BI OR 1330-20-7/BI OR 14078-41-2/BI OR  
141-78-6/BI OR 142-82-5/BI OR 1634-04-4/BI OR 16611-68-0/BI OR  
1806-29-7/BI OR 2430-22-0/BI OR 4437-85-8/BI OR 540-88-5/BI OR  
55505-26-5/BI OR 569-42-6/BI OR 60-29-7/BI OR 602-09-5/BI OR  
604-60-4/BI OR 64-17-5/BI OR 646-06-0/BI OR 67-56-1/BI OR  
67-63-0/BI OR 67-64-1/BI OR 67-68-5/BI OR 68-12-2/BI OR  
71-23-8/BI OR 71-36-3/BI OR 71-43-2/BI OR 75-05-8/BI OR  
75-65-0/BI OR 75-97-8/BI OR 78-92-2/BI OR 78-93-3/BI OR  
85763-57-1/BI OR 872-50-4/BI OR 9062-74-2/BI OR 96-49-1/BI)  
L7 3 SEA ABB=ON PLU=ON L6 AND P/ELS  
D SCA  
L8 STR L1  
L9 50 SEA SSS SAM L8  
L10 5379 SEA SSS FUL L8

FILE 'CAPLUS' ENTERED AT 15:44:01 ON 24 OCT 2007

L11 12801 SEA ABB=ON PLU=ON L10(L) RACT+NT/RL  
L12 0 SEA ABB=ON PLU=ON L11 AND LL5  
L13 1 SEA ABB=ON PLU=ON L11 AND L5  
D SCA L5  
E ION EXCHANGE/CT  
E E3+ALL

FILE 'HCAPLUS' ENTERED AT 15:45:25 ON 24 OCT 2007

L14 27270 SEA ABB=ON PLU=ON ION EXCHANGE+PFT,NT/CT  
E ION EXCHANGERS/CT  
E E3+ALL  
L15 54122 SEA ABB=ON PLU=ON ION EXCHANGERS+PFT,NT/CT  
L16 29 SEA ABB=ON PLU=ON L11 AND (L14 OR L15)  
L17 1 SEA ABB=ON PLU=ON L16 AND L5

FILE 'CAPLUS' ENTERED AT 15:59:52 ON 24 OCT 2007

FILE 'HCAPLUS' ENTERED AT 16:00:21 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:00:22 ON 24 OCT 2007

FILE 'CAPLUS' ENTERED AT 16:00:30 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:01:21 ON 24 OCT 2007

L19 TRA PLU=ON L11 1- RN : 50515 TERMS (TERM LIMIT EXCEEDED)

FILE 'REGISTRY' ENTERED AT 16:01:21 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:02:13 ON 24 OCT 2007

FILE 'CAPLUS' ENTERED AT 16:02:44 ON 24 OCT 2007

L20 TRA PLU=ON L11 1-1900 RN : 49930 TERMS

FILE 'REGISTRY' ENTERED AT 16:03:14 ON 24 OCT 2007

L21 49930 SEA ABB=ON PLU=ON L20

FILE 'CAPLUS' ENTERED AT 16:12:56 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:13:49 ON 24 OCT 2007

L22 TRA PLU=ON L11 1901- RN : 50321 TERMS (TERM LIMIT EXCEEDED)

FILE 'REGISTRY, REGISTRY' ENTERED AT 16:13:49 ON 24 OCT 2007

L23 50321 SEA ABB=ON PLU=ON L22

FILE 'CAPLUS' ENTERED AT 16:17:37 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:19:02 ON 24 OCT 2007

L24 TRA PLU=ON L11 3950- RN : 50679 TERMS (TERM LIMIT EXCEEDED)

FILE 'REGISTRY, REGISTRY' ENTERED AT 16:19:02 ON 24 OCT 2007

L25 50679 SEA ABB=ON PLU=ON L24

FILE 'CAPLUS' ENTERED AT 16:34:44 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:34:51 ON 24 OCT 2007

FILE 'CAPLUS' ENTERED AT 16:34:57 ON 24 OCT 2007

FILE 'REGISTRY' ENTERED AT 16:36:04 ON 24 OCT 2007

L27 TRA PLU=ON L11 6950- RN : 50614 TERMS (TERM LIMIT EXCEEDED)

FILE 'REGISTRY, REGISTRY' ENTERED AT 16:36:04 ON 24 OCT 2007

L28 50614 SEA ABB=ON PLU=ON L27

FILE 'CAPLUS' ENTERED AT 16:42:36 ON 24 OCT 2007

L29 TRA PLU=ON L11 10500- RN : 24330 TERMS

FILE 'REGISTRY' ENTERED AT 16:43:15 ON 24 OCT 2007

L30 24330 SEA ABB=ON PLU=ON L29

L31 194279 SEA ABB=ON PLU=ON L30 OR L28 OR L25 OR L23 OR L21

L32 STR

L33 50 SEA SUB=L31 SSS SAM L32  
L34 78559 SEA SUB=L31 SSS FUL L32  
L35 STR  
L36 41148 SEA SUB=L34 SSS FUL L35  
L37 STR  
L38 40486 SEA SUB=L34 SSS FUL L37

FILE 'CAPLUS' ENTERED AT 16:47:09 ON 24 OCT 2007

L39 22389 SEA ABB=ON PLU=ON L38(L) PREP+NT/RL  
L40 700889 SEA ABB=ON PLU=ON L36(L) RACT+NT/RL  
L41 6611 SEA ABB=ON PLU=ON L39 AND L40  
L42 4016 SEA ABB=ON PLU=ON L41 AND L11  
L43 1 SEA ABB=ON PLU=ON L42 AND L5

FILE 'HCAPLUS' ENTERED AT 16:49:17 ON 24 OCT 2007

L44 7 SEA ABB=ON PLU=ON L42 AND (L14 OR L15)  
L45 115 SEA ABB=ON PLU=ON L42 AND ?EXCHANG?  
L46 33 SEA ABB=ON PLU=ON L45 AND (ION OR CATION? OR ANION?)  
L47 33 SEA ABB=ON PLU=ON L46 OR L44

FILE 'HCAPLUS' ENTERED AT 16:53:02 ON 24 OCT 2007

D QUE L47  
D L47 IBIB ABS HITIND HITSTR TOT